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FINAL ENVIRONMENTAL STATEMENT. CONTINENTAL UNITED STATES OVER-T-ETC(U)

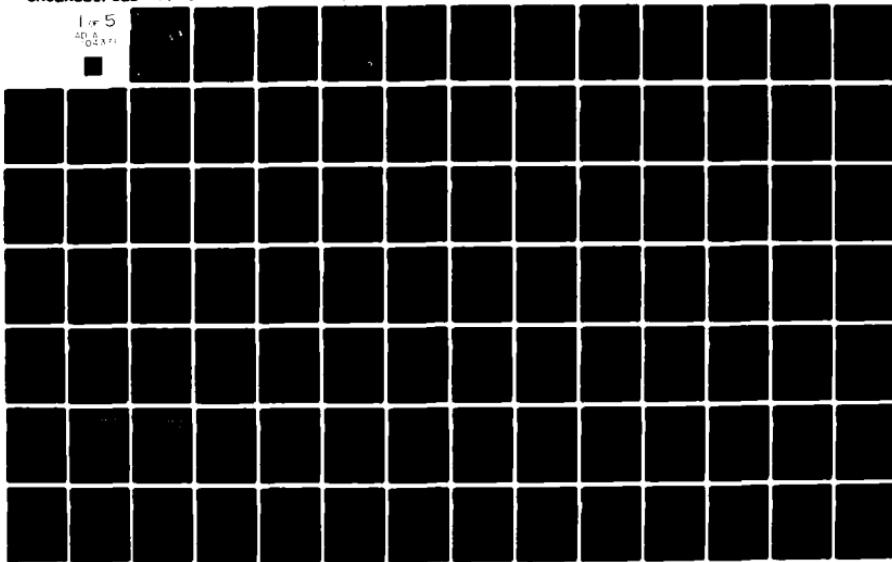
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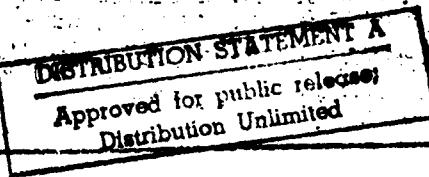
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# Environmental Statement

CONTINENTAL UNITED STATES OVER-THE-HORIZON

BACKSCATTER RADAR SYSTEM

JANUARY 1975



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20. ABSTRACT (Continue on reverse side if necessary and identify by block number) <b>The Air Force proposes to design and construct an OTH-B radar system in the United States. The initial program which is anticipated to last until approximately 1979 requires the construction and testing of a limited coverage prototype radar system in the northeastern part of the US. The proposed transmitter site is located in Moscow/Caratunk, Somerset County, Maine. The proposed receiver/operations site is located in Washington County, Maine. If the prototype proves successful, a larger operational (con't)</b>		

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Item 20 (con't)

OTH-B radar will be built. The transmitter and receiver sites will be expanded to provide for the increased coverage. The operations function will be moved to an existing, as yet unidentified, military installation.

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SUMMARY

1. This is a Final Environmental Statement.
2. The action to be taken for the Continental United States (CONUS) Over-the-Horizon Backscatter (OTH-B) Radar System is administrative.
3. The Air Force proposes to design and construct an OTH-B radar system in the United States. The initial program which is anticipated to last until approximately 1979 requires the construction and testing of a limited coverage prototype radar system in the northeastern part of the US. The proposed transmitter site is located in Moscow/Caratunk, Somerset County, Maine. The proposed receiver/operations site is located in Washington County, Maine. If the prototype proves successful, a larger operational OTH-B radar will be built. The transmitter and receiver sites will be expanded to provide for the increased coverage. The operations function will be moved to an existing, as yet unidentified, military installation.
4. Environmental Impact. This environmental impact statement addresses the effects expected from both the prototype and operational radar systems.
  - a. Radiated Radio Frequency Energy. The transmitter site is the only source of radiated radio frequency (RF) energy in the radar system. It transmits in the High Frequency (HF) spectrum (3-30 Megahertz). RF radiation hazard areas are identified in the statement. These areas were calculated using established civilian and military standards. The Air Force will undertake detailed and comprehensive testing and analysis of the actual field strengths generated to validate the calculated hazard areas for the prototype and the operational radar systems.
  - b. Airspace Restriction. An airspace restriction will be required to prevent aircraft intrusion below 5000 ft altitude above mean ground level and within 8000 ft slant range of the front of the transmitter antenna.

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c. Radio Frequency Interference to Communications Systems

Outside the HF Spectrum. RF interference to TV, VHF, UHF, radio, broadcast radio and commercial receivers may occur within a three mile radius when the receiver is located in the main beam of the transmitter antenna.

d. Radio Frequency Interference to Communications Systems

Within the HF Spectrum. Distant RF interference will be avoided by means of guard bands around assigned frequencies. Close-in interference will be experienced in the same manner as those receivers that function outside of the HF spectrum.

e. Electro-Explosive Devices (EEDs). The hazard area for handling and use of EEDs outside of their containers will extend out from the transmitter antenna a distance of 22,000 ft (4.2 miles) in the main beam. The hazard area for ground transportation of EEDs in non-metallic containers will extend out from the antenna a distance of 10,000 ft (1.9 miles) in the main beam. The hazard distance is decreased considerably when the EEDs are transported in metal containers. In addition, the side and back lobes of the antenna radiation pattern reflect a smaller calculated hazard area than that identified for the main beam.

f. Air Pollution. Commercial power will be used for both the prototype and operational radar systems. Standby power plants will be provided only for the operational radar system. When operating they will emit diesel exhaust fumes into the atmosphere.

g. Noise Pollution. Noise will be generated when the standby power plants are used.

h. Foliage and Soil. The clearing of trees and shrubs in the antenna, building, access road and utility right-of-way areas at each site will cause some minor soil erosion.

i. Water Pollution. Water consumption for domestic purposes will probably not exceed 2500 gallons at the operations site, 750 gallons per day at the transmitter site and 750 gallons per day at the receiver site for the operational configuration. Water consumption for the prototype radar system is estimated at 500 gallons per

day at the transmitter site and 1250 gallons at the collocated receiver/operations site. Water cooling of transmitter equipment will require a maximum of 24,000 gallons a day for the prototype and 140,000 gallons a day for the operational system. Domestic waste will be treated to provide a minimum of secondary treatment.

j. Socio-Economic. A maximum of 650 acres of productive native lowbush blueberry land will be required for the receiver site, thus, depriving the local community of the economic input that this land would produce as a result of blueberry production. The CONUS OTH-B Radar System will provide a payroll and jobs for the local communities. Demand for local supplies, services and equipment will increase.

5. Actions Taken or Planned to Reduce Environmental Impact. It is Department of Defense (DOD) and Air Force policy to cooperate with State and local environmental agencies in accordance with the requirements of Office of Management and Budget (OMB) Circular A-95 and to provide environmentally related information and data regarding DOD facilities and activities that are available or can be obtained readily and are relevant to a determination of compliance with State and local standards or emission limitations.

a. The following actions have been taken or are planned to reduce the environmental impact:

(1) The proposed transmitter site is located in an area that is some distance from population centers, airfields and highways so as to minimize the effects of HF RF radiation.

(2) Hazard areas have been calculated. To enclose the hazard area a perimeter fence will be installed with appropriate warning signs appearing at designated intervals. In addition, these hazards areas will be tested, analyzed and validated during the prototype radar system testing program.

(3) A listed phone number for the operations facility will be made available for use by the public when a contingency and/or emergency situation requires coordinated action between the Air Force and/or the State of Maine or the public. Local coordination will be maintained with the Federal Communications Commission (FCC) Engineer-in-Charge (Belfast, Maine) to avoid

interference to non-Government services.

(4) Diesel exhaust fumes will be treated catalytically and/or filtered prior to emission into the atmosphere.

(5) Mufflers will be installed to reduce diesel engine noises.

(6) Antenna and building areas cleared of trees will be stabilized to prevent soil erosion.

(7) Sewage treatment, sedimentation basins, cooling systems and other systems as required will be provided to keep water pollution effects within the limits prescribed by Federal, State and local laws and regulations.

(8) Socio-Economic. The construction and installation of the prototype radar system will have the beneficial impact of making use of local labor, supplies and services where available. In addition, the payroll of other site personnel will provide additional economic support to the communities in the surrounding areas of the sites. It is anticipated that the social impact of the prototype radar system will be minimal. If the operational radar system is implemented there will be a considerable increase in requirements for labor, supplies and services which will have a very positive impact on the economic well-being of the surrounding communities. The social impact cannot be ascertained at this time but, there will be a demand for increased services, schooling and housing.

6. Alternatives. The following alternatives were considered in preparation for the implementation of this program:

a. The Alternative of Not Building the CONUS OTH-B Radar System. This alternative would deprive the United States of a significant increase in warning time of the approach of unidentified aircraft. The extended range in the detection of aircraft provided by an Over-the-Horizon Radar allows for its location within national boundaries. In addition to the extended range, the Over-the-Horizon Backscatter Technology allows for a low level of manning and support costs thus providing a competitive advantage over other type systems that might be considered to

perform the required mission.

b. The Use of Alternative Radar. A Pulsed Doppler (PD) type radar instead of a Frequency Modulation (FM) Continuous Wave (CW) type radar was considered. The FM/CW radar was determined to be more economical from a life cycle cost standpoint. The power requirements for the FM/CW system are less than the PD system. This reduced power will provide an HF radiation pattern that will have less of an impact upon the environment.

c. Alternative Sites. Many sites were surveyed and evaluated. The sites were selected using specific criteria that would enhance technical performance and minimize impact upon the environment.

7. Written comments were received from the following:

a. Federal Agencies.

Department of Health, Education and Welfare  
U.S. Department of Commerce  
U.S. Environmental Protection Agency  
U.S. Department of the Interior

b. Agencies of the State of Maine.

State Planning Office  
Soil and Water Conservation Board  
Department of Environmental Protection  
Pesticides Control Board  
Department of Agriculture  
Department of Transportation  
Department of Inland Fisheries and Game  
Department of Conservation

c. Local Agencies.

Washington County Regional Planning Commission  
Scott Paper Company

d. Concerned public citizens who participated in the Informal Public Hearings at Moscow, Harrington and Augusta in the State of Maine.

8. A draft statement was first filed in March 1972. The revised draft statement was made available to the Council on Environmental Quality during July 1974. The final environmental statement was made available to CEQ and the public in January 1975.

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Section I. Background. This environmental statement is predicated upon the best information available. As system design progresses, more definitive data will be provided relative to the estimated impact of the system upon the environment. A draft statement was first filed in March 1972 and a revised draft was published for public comment in July 1974. This edition of the statement considers the comments provided by Federal, State and local agencies and those submitted by the public.

a. History of the Program.

During the early and mid 1960's several studies were conducted concerning Aerospace Defense requirements during the post 1975 time frame. Development Concept Paper #1, a Department of Defense document, which was approved by the Secretary of Defense in 1967 addressed the Airborne Warning and Control System, the Advanced Manned Interceptor and the requirement for an Over-the-Horizon Radar capable of detecting aircraft over an extremely long range. During the period between the release of Development Concept Paper #1 and June 1970 when Development Concept Paper #49 was approved, various Air Force agencies and the Analytical Services Corporation developed and released a Concept Formulation Package/Technical Development Plan for the CONUS OTH-B Radar System. Various alternatives and areas of surveillance were considered based on studies performed by the Aerospace Defense Command. Additional studies were conducted by General Electric, Sylvania and International Telephone and Telegraph under contract to the Electronic Systems Division, Air Force Systems Command. After many iterations, Development Concept Paper #49 authorized the Contract Definition (currently Validation) Phase for two sites providing coverage for extended ranges. On March 8, 1974, Revision 1 to Development Concept Paper #49 was issued to include changes made in the program since the original version was issued.

b. System Description.

(1) High Frequency Techniques. High Frequency techniques have been employed for years for short wave radio broadcasting and communications. The ability to orient such radiation and discern a returning echo from remote objects has now led to the

ability to detect aircraft at extreme ranges. The CONUS OTH-B Radar System uses the ionosphere to refract and return its high frequency (HF) radio waves to a distant point over the optical horizon; aircraft flying in the region thus illuminated reflect energy echoes back along the same path, and can thus be detected at much greater ranges than is currently possible with conventional, "line-of-sight" radars. The principal technology base for the present CONUS OTH-B program has been under development for many years by the United States Air Force at the Rome Air Development Center in Rome, New York. This technology program, called the O73A program, employs an experimental FM-CW radar consisting of a transmitter site at Ava, New York and a receiver at Dexter, New York. Operation is contingent upon specific experimental test objectives developed by Rome Air Development Center engineers.

(2) CONUS OTH-B Radar System. The CONUS OTH-B operational radar system will consist of two radars oriented seaward, one each in the northeast and northwest United States. This statement addresses only the northeast radar development program in the State of Maine. In the initial phase of the program in the northeast, a limited coverage prototype radar will be built which has the receiver and operations functions collocated at one site. The transmitter which radiates high power, high frequency radio signals will be located in a remote, unpopulated woodland area with a separation of approximately 105 miles from the receiver site. The separation of transmitter and receiver sites is to prevent the sensitive receiver from receiving in-band interference from the transmitted signal via the ground wave. The equipment of the prototype will be designed for a life expectancy of 15 years. The CONUS OTH-B operational radar will consist of a transmitter site, a receiver site and an operations site. The three components of the system will be separated geographically. No nuclear devices will be installed at any of the system sites. It is anticipated that the Prototype Radar System will have a life span of five years, at which time portions of it will be incorporated into the CONUS OTH-B Radar System which will have a life span of ten years.

This statement addresses the maximum amount of land required. The exact amount needed is contingent upon the particular contractor design selected by the Air Force. The Air Force will only purchase the amount of land required. The land required for

the operational radar would not be purchased until needed. While the environmental statement discusses the proposed transmitter site and only two proposed receiver sites in detail, all other sites that were considered were subjected to the same thorough analysis, (see Section 5, Alternatives to the Proposed Action), using the following:

(a) Criteria for Site Selection.

1. The use of Federal, State and Municipal properties had to be fully assessed prior to investigating privately owned land.

2. The area of potential location included Maine, Massachusetts and New Hampshire. The utility of the radar increases as its location moves to the northeast because this allows the greatest radar range coverage in the primary direction of interest.

3. Separate sites for the transmitter (remote from populated areas) and receiver/operations (at least 100 miles from the transmitter) are required. Each will have to accommodate necessary expansion to a future fully sized operational site. In addition, an operations location for a fully operational radar system must be chosen from existing military bases in the vicinity.

4. The availability of existing Government and/or non-Government support facilities and utilities and accessibility by existing transportation systems were considered.

5. The transmitter site, in addition to being located away from population centers, requires separation from airfields, airways, waterways and highways so as to reduce to a minimum adverse effects of radiation from HF radar transmissions. A horizon clear of obstructions in addition to a large expanse of flat or northeasterly gently sloping land is a requirement. Adequate commercial electrical power should be readily available to supply electrical energy needs of the transmitter.

6. The radio frequency (RF) environmental criteria of the transmitter sites are (see Section 3, Environmental Impact, for further amplification of the distance criteria):

	<u>MINIMUM DISTANCE (MILES)</u>
Airways . . . . .	5
Population Centers (20,000) . . . . .	10
Industrial Centers . . . . .	20
OTH (FM/CW) Receiver . . . . .	100-125
Navy HF Receiver (at Winter Harbor, Me)* . . . . .	60
Comm, TV (UHF-VHF) Receivers . . . . .	2
Comm, Radio (AM-FM) Receivers . . . . .	--
MIL, UHF and VHF Receivers . . . . .	2
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7. The specific hazard zone limits from the transmitter antenna are:

	<u>DISTANCE FROM ANTENNA</u>
Personnel	2,200 feet
Heart Pacemakers	4,400 feet
Electro-Explosive Devices	22,000 feet

Derivation of these limits is in Appendix A, Table 1.

8. The receiver must be located in an RF clean environment free from possible interference generating equipment normally found near population centers. Interference generators include railroads, main highways (automotive ignition systems), power lines, factories, logging activities, welding and any heavy industries which handle switching of high voltage electrical currents. The terrain around the receiver antenna should be a very large expanse of flat or northeasterly sloping land. The horizon should be clear of obstructions such as mountains, peaks or hills. The specific RF receiver site criteria are as listed below (note that the

\*The Navy HF receiver is within the frequency spectrum to be used by the CONUS OTH-B Radar System and as a consequence would be affected far more severely than receivers operating outside the HF range.

receiver site emits no radiation and has no hazard zone):

	<u>MINIMUM DISTANCE (MILES)</u>
Airways . . . . .	<i>N/A 5 miles</i>
Population Centers (20,000) . . . . .	10
Industrial Center . . . . .	20
OTH-B Transmitter . . . . .	100-125
Navy HF Receiver . . . . .	<i>N/A</i>
TV Transmitters . . . . .	5
Radio (all bands) Transmitters . . . . .	1-2
Commercial Power, 34.5 Kv Line . . . . .	1
Commercial Power, 115 Kv Line . . . . .	2
Railroads & Major Highways . . . . .	2
Electric Fences & Isolated Industry . . . . .	2

9. Sites must be evaluated environmentally in terms of critical habitat of wildlife and possible presence of rare and endangered species.

10. Sites must be evaluated from both the negative and positive economic impact the proposed radar system has upon the local and surrounding communities.

c. Site Surveys.

Based upon the criteria established site surveys were conducted. In September 1970, initial site surveys were conducted along the coasts of Maine, New Hampshire and Massachusetts for a monostatic transmitter-receiver operations site. None of the sites were considered acceptable because of a subsequent determination of interference with the existing U.S. Navy HF installation at Winter Harbor/Corea, Maine. An initial report specified an overland separation of at least 86.5 miles between the OTH-B transmitter and the U.S. Navy HF receiver. A distance of 60 miles was later considered acceptable. Subsequent OTH-B site selection survey activities were limited to investigation of candidate sites in Maine which would preclude interference with the U.S. Navy HF installation. Consideration was also given to utilization of facilities on an operating military base which could provide support such as housing, commissary, exchange, etc. for personnel employed in the operation and maintenance of the radar. In July 1971,

A report of the inland survey activities proposed a combined transmitter/receiving site in Moscow/Caratunk, Maine with an operations facility located at Topsham, Maine. The Topsham site was selected because of the existing vacant SAGE facility at the former Topsham Air Force Station (now Brunswick Naval Air Station Annex). An alternate recommendation for the operations facility was in the vicinity of Loring AFB, Maine.

The 1971 report assumed that the transmitter and receiver would be collocated at Moscow/Caratunk, Maine. However, in December 1971, the adoption of an FM/CW radar concept in lieu of a Pulse Doppler concept required that the receiver be separated from the transmitter. The most suitable receiver site was in the vicinity of Burnham, in southern Maine. However, the area near Loring Air Force Base, in northern Maine, offered a possibility for collocation of the receiver and operations (bistatic concept). Both the northern Maine bistatic and southern Maine tristatic sites were technically acceptable for the system. Studies indicated that some technical simplification was possible in the bistatic configuration. An operations/receiver site at Caribou in northern Maine could be supported by Loring AFB, whereas a receiver site at Burnham, Maine was considered too remote for any military base support. On 15 August 1972 a site survey review meeting was held at Air Force Systems Command, Electronic Systems Division. Representatives from the Aerospace Defense Command, Air Force Communications Service, Air Force Logistics Command, Air Force Systems Command and the MITRE Corporation participated. The purpose of the meeting was to review all survey efforts previously accomplished in view of the then current siting criteria. Following the meeting, a survey of prospective sites was conducted. Upon completion of this survey, an extensive system acquisition/life cycle cost analysis was made. The results indicated some advantage to a bistatic concept using Loring AFB for non-technical support for a receiver/operations site located in Caribou, Maine (approximately 10 statute miles by road from Loring AFB) with the transmitter site located in Moscow/Caratunk, Maine.

In August 1973 two new developments had a considerable impact upon the site selection process and caused a major reevaluation of previously accomplished surveys. The first and most extensive was a new Program Decision Memorandum which outlined a

step by step development program based on an assessment of the associated technical and cost risks. As a result a limited coverage prototype radar system was directed to verify the expected performance and to further define the capabilities of an OTH-B radar. The second change came as a result of continuing research and development, principally by the Rome Air Development Center, for improved performance of wide aperture receiver arrays over more conventional, smaller arrays. This improvement was significant and the decision was made to incorporate the wide aperture receiver antenna as a system requirement. The wide aperture antenna requires a 6000 ft. long, 2000 ft. deep primary antenna array with a 2000 ft. long, 800 ft. deep secondary array for each sector of coverage. An analysis of the site at Caribou, Maine indicated that the construction of a receiver antenna for two sectors of coverage would require closing two county roads, taking approximately 800 acres of productive farmland, involving 15 to 18 property owners and extensive, expensive grading. The topography at the site is such that cuts and fills of 40 to 70 feet would be required. Subsurface investigations indicated base rock at depths of eight to twenty feet below the surface. The additional antenna arrays required for operational expansion of the system coverage would require acquisition of other farm properties with similar topography and subsurface conditions. As a result, additional surveys were required to select a more suitable site for the wide aperture receiver.

During the week of 12 September 1973 representatives of Electronic Systems Division and Rome Air Development Center resurveyed areas in southeastern Maine that had been included in the initial survey conducted in September 1970. The most suitable site for the wide aperture receiver antenna was found to be in the vicinity of Montegail Pond located in unorganized Township 19MD.

The public hearings held in August and September 1974 in the State of Maine indicated concern about the socio-economic impact resulting from the amount of acreage required of productive blueberry land for the receiver site. In view of this concern, the land requirement was intensively reevaluated in terms of technical performance and the socio-economic and environmental impact of the system. The results of this analysis confirmed that the technical performance of the system would be enhanced by locating the receiver in the area stated in the draft environmental statement. However,

the total acreage requirement will be 1300 acres. Of the 1300 acres 975 acres are identified as blueberry land. Two additional options were also developed for consideration. Option 1 entails the same acreage as the technically preferred site but only 650 acres are identified as blueberry land. Option 2 retains the total acreage and eliminates the requirement for any blueberry land (see Appendix E).

Cost determination was predicated upon a number of factors that included land acquisition, site preparation, roads, power, facilities, communications, data transfer, maintenance and personnel.

#### COST COMPARISON OF OPTIONS WITH THE TECHNICALLY PREFERRED RECEIVER SITE

<u>OPTION</u>	<u>PHASE</u>	<u>COST INCREASE</u>
Option 1	Prototype System	\$ 380,000
	Operational System	\$ 2,510,000
Option 2	Prototype System	\$ 2,961,000
	Operational System	\$ 8,144,000

The selection of Option 1 for the receiver site is deemed a prudent compromise by the CONUS OTH-B Radar System Program Office between the technical acceptability of the site and the environmental and economic impact on Washington County, Maine.

The selection of the receiver site also resulted in re-analysis of existing military facilities for technical and/or non-technical support for the operations site. Initially, it was determined that the military facility at Topsham, Maine offered the most suitable location for the operations site in the expanded continental system. Later, Loring AFB, Maine was added as a possible site and only recently Bucks Harbor, Maine has also been considered. All three locations are currently under study but a decision is not expected until next year at the earliest. It has been determined that the existing military operational facilities at the Cutler Navy Installation are technically incompatible with the proposed OTH-B system. For site locations see Appendix D.

d. Detailed Facility Requirements.

(1) Transmitter Site.

(a) At the prototype transmitter site there will be a 6,000 square foot technical equipment building, a combined equipment storage and maintenance shop, transmit antennas, support facilities and utility systems consisting of a commercial electric power supply and distribution system, communication lines, access and service roads, water supply and storage system, sewage treatment system, storm drainage system and security and perimeter fencing. The required land area within the perimeter fence should not exceed 340 acres including the RF hazard zone.

(b) At the operational system transmitter site there will be a 45,000 square foot technical equipment building, a 1.2 megawatt standby power plant, a gate house, transmit antennas, connection to commercial power lines, a paved access road, a well water supply, sewage treatment and storm drainage systems, diesel fuel storage for the power plant, a security fence and perimeter fence. The required land area within the perimeter fence should not exceed 1180 acres including the RF hazard zone. There are also requirements for a warehouse, vehicle storage and a maintenance shop.

(2) Receiver Site.

(a) At the prototype receiver site there will be a 1000 square foot technical equipment building, a combined equipment storage, vehicle storage and maintenance shop and the receive antennas. The height of the receive antenna will depend upon the types proposed by the bidders and specifically the one accepted by the government for use by the successful bidder. The antenna will be selected on the basis of technical performance and compliance with system requirements. It is, therefore, not possible to define the actual receive antenna height at this time. In general, the height above ground of these antennas can range from approximately 8 feet to about 130 feet. Support facilities and utility systems consisting of a commercial electric power supply and distribution system, communication lines, access and service roads, water supply and storage system, sewage treatment system and storm drainage system and security and perimeter fencing will also be required at the

receiver site. The required land area within the perimeter fence for the prototype receiver should not exceed 325 acres.

(b) At the operational system receiver site there will be two 8000 square foot technical equipment buildings, a 1.0 megawatt standby power plant, a gate house, receive antennas, connection to commercial power lines, a paved access road, paved vehicle parking, maintenance roads in the antenna field, a well water supply, a sewage treatment system, a storm drainage system, diesel fuel storage for the standby power plant, a security fence and a perimeter fence. There may also be a requirement for a warehouse and a vehicle storage and maintenance shop. The required land area within the perimeter fence should not exceed 1300 acres.

(3) Operations Site.

At the operations area there will be a requirement for 4000 square feet of floor space for the prototype radar system and 45,000 square feet for the operational radar system to house the technical equipment. This function will be located at an existing military installation and will use existing support facilities for the operational radar system. The operations site will be collocated with the receiver site for the prototype system.

e. Previous Experience and Supporting Agencies.

The CONUS OTH-B Radar System Program Office has the benefit of experience gained from the operation of experimental OTH-B radar systems. The agencies involved with these OTH-B radar systems include the Rome Air Development Center in the 673A Program, the U.S. Navy in its Madre Program and the Advanced Research Projects Agency. Experience has also been acquired from "Polar Cap III", an experimental radar sponsored by the CONUS OTH-B Radar System Program Office. Several of these systems radiate power densities comparable to the proposed CONUS OTH-B Radar System and thus have a similar environmental impact. Data from these radar systems serve as a data base to confirm the validity of the theory contained herein and support the precautions recommended.

(1) The CONUS OTH-B Radar System Program Office is

Supported by the Department of Defense Electromagnetic Compatibility Analysis Center (ECAC) and the Radiobiology Division of the USAF School of Aerospace Medicine.

(2) The CONUS OTH-B Radar System Program Office has developed a plan of action with ECAC for a continuing analysis of the OTH-B Electromagnetic Compatibility (EMC) Assessment and Mitigation Program. The radio frequency environment compatibility and potential radio frequency interference (RFI) studies have been completed by ECAC for the prototype and operational radar configurations. Studies were also completed in response to guidance by the International Joint Frequency Panel and received a favorable review from the Federal Office of Telecommunications Policy (OTP). The continued EMC/RFI compatibility and protection is assured by the Electronic Systems Division policy maintaining an on-going project with ECAC for analysis and evaluation of the design data obtained from monitoring by measurement of the actual radar design, installation and test. Specific mitigation actions developed from these studies and included in the specifications are: (a) protection of emergency and authorized HF frequencies of record with guard bands, (b) monitoring the antenna radiation pattern and radar parameters by a continual update of the ECAC computer data base with actual design data to assure compliance to the potential minimal interference prediction, (c) frequency management techniques of "lock through" receivers that will protect those HF radio frequencies of record prior to OTH-B radiation during the actual operation that potentially are most likely to be interfered with and (d) the radiated power will be supervised so that during periods of optimal ionospheric conditions operation at a reduced radar power may be permitted without degrading mission performance. The EMC safeguards are assured by guidance from completed studies, provisions for follow-on monitoring of the actual installation and means for mitigating potential compromises should the contingency require it.

(3) The School of Aerospace Medicine is conducting extensive biological experiments with laboratory animals designed to ensure that present standards involving RF radiation levels are adequate when applied to a radar operating in the HF spectrum. Existing radiation standards have been proven to be very conservative in the HF band. The standard provides a very large safety margin.

No previous standards existed for cardiac pacemakers. The School of Aerospace Medicine, after an extensive biological test program, has recommended using 50 volts per meter as the cardiac pacemaker exposure limit for this system. This recommendation is filed with the Surgeon General. Additional pacemaker testing at representative HF band transmitter sites is planned by the School of Aerospace Medicine in support of the CONUS OTH-B Radar System Program Office. Aerospace Medical Division (AMD) personnel are planning to verify their findings by taking measurements at the transmitter site at the Rome Air Development Center facility and at the prototype transmitter site when constructed. It is expected that the most sensitive pacemakers identified in current test programs will be replaced by less sensitive devices by the time this CONUS OTH-B Radar System becomes operational.

(4) As a parallel effort with their determination of the effects of HF radiation on cardiac pacemakers, the School of Aerospace Medicine has, since 1969, conducted intensive investigation of the biological effects of HF high power radiation. As long ago as 1970, they conducted a six week study using 12 primates; these animals were exposed to power density levels of 200 milliwatts per square centimeter (twenty times the level permitted by existing standards, see Appendix A, Table 1), at a frequency of 10.5 megahertz (MHz) for periods exceeding one hour. Absolutely no effects were discernible. Later experiments were conducted at much higher power levels. For example, 1040 milliwatts per square centimeter at 19 MHz (100 times over the standards for OTH-B) were applied to other animals, and no effects were recorded. During their experiments, conducted under rigorous clinical conditions, and using primates, mealworms, mice and pigs, no organic damage has been recorded other than minor body heating due to energy absorption which was so minimal that it can be compared to solar heating effects. It is the conclusion of the School of Aerospace Medicine that the established safety standard of 50 milliwatts per square centimeter is indeed conservative, and that in the HF range of radiation the tolerance could be safely relaxed to at least 50 milliwatts per square centimeter.

With reference to the hazard areas established in paragraph 1.b.(2)(a)7. above, and to Appendix A, Table 1, the following examples using theoretical calculations illustrate the conservative OTH-B design requirements.

CALCULATIONS ASSUMING A NEAR FIELD CONDITION AND  
ASSUMING A POWER OUTPUT OF 2400 KILOWATTS

<u>Distance In Feet From The Transmitter</u>	<u>Field Strength In Milliwatts Per Square Centimeter</u>
2000	14
1000	50
500	200

Experimental evidence (Appendix B) indicates that no organic damage is anticipated.

Section V. Existing Environment at Selected Sites.

a. Transmitter Site.

The proposed transmitter site is located in an uninhabited woodland area in the towns of Moscow and Caratunk on the eastern slope of Cow Mountain. The elevation (above sea level) of the site varies from an elevation of 1460 feet on the western side at an average rate of slope less than 5% to an elevation of 1300 feet on the eastern side. There are several (11) private camps on the shore of Linse Pond which is located a mile and a half southwest of the transmitter site. The entire site is densely covered with various types of trees; Spruce, Pine, Cedar, Hemlock, Birch and Maple. The principal use of the land is for harvesting natural woodland growth for commercial purposes. The following population information is based on the 1970 census. The population centers of Moscow (population 187) and Bingham (population 1254) are approximately 8 miles due south of the site. The population center of Caratunk (population 96) is located approximately 6 miles northwest of the site. In the direction of main beam transmission, to the east and north of the site, there are no known permanent habitations within 10 miles of the site; the nearest organized townships (all in excess of 10 miles distant) are Kingsbury Plantation (population 7), Blanchard Plantation (population 56), and Brighton Plantation (population 58) (see Appendix F, Map 1).

b. Receiver Site.

(Includes operations site functions in the prototype configuration). The technically preferred receiver site is located in an uninhabited area in the vicinity of Montegail Pond, unorganized township 19MD, Washington County. Three quarters of the required land (a minimum of 975 acres) would be in the blueberry barrens. The technically preferred receiver site and the Option 1 receiver site are located in an uninhabited area in the vicinity of Montegail Pond, unorganized township 19MD, Washington County. There are several (26) private camps on the shores of Montegail Pond. The sites are treeless and generally flat at an elevation of 250 feet above sea level. The nearest population center of Columbia Falls (population 367) is approximately 6 miles due south of the site. In

the direction of area of interest the nearest organized townships are Northfield (population 57), Wesley (population 110), and Centerville (population 19) (see Appendix F, Map 2). In the technically preferred receiver site a maximum of 975 acres of the 1300 acres required for the operational system are identified as blueberry land. In the Option 1 receiver site a maximum of 650 acres of the 1300 acres required for the operational system are identified as blueberry land (see Appendix E, Table 1). In deference to the objectives raised by the State and local officials and the local residents against the use of the technically preferred receiver site, the Option 1 receiver site now is the proposed receiver site.

c. Operations Site.

(Full operational site - not prototype). Three locations in Maine are being considered for the operations site. Togus (Brunswick NAS Annex) (area population 21,000), Bucks Harbor AFS (area population 3,300), and Loring AFB (area population 32,000). The final site will not be selected until mid 1975 at the earliest.

Section 3. Environmental Impact. This section examines the environmental impact of the program on water, the atmosphere and natural resources. Also discussed are effects on other values, the social-economic impact, sources of commercial power, site access roads and solid waste disposal. The prototype radar system will be operated on a varying test schedule approximately eight hours per day. While the operational radar system will operate 24 hours a day.

a. Effect on Water.

The figures provided herein are based upon a per capita consumption of 25 gallons of water for domestic use per 8 hour period.

(1) Transmitter Site.

(a) Water will be obtained from on-site wells. The domestic water consumption for the prototype transmitter site is estimated at 500 gallons per day. This volume is equivalent to the normal domestic requirements of a population of three. The domestic water consumption for the operational transmitter site is estimated at 750 gallons per day. This is equivalent to the domestic requirements of a population of five. These requirements will have minimal effect on the local water table and the watershed.

(b) Domestic waste will be treated to provide a minimum of secondary treatment. The effluent will be discharged into on-site surface drains if the subsurface conditions permit this type of disposal at the location selected. In the event the subsurface percolation rate is inadequate the effluent will be carried via an existing water course. The effluent will be treated to meet the water classification of the receiving stream.

(c) In addition to the domestic requirements there will be a need for water to be used for equipment cooling. Pending pre-commissioning of the system, the equipment cooling may be achieved by a "semi-closed" water cooling system, or by a "flow-through" water cooling system. The semi-closed system would require, after the initial start-up, 100 gallons of water per day of "make-up" water. Neither the air cooling nor the semi-closed system would result in significant discharge to the water.

The "flow through" system has the greatest requirement for source and discharge water. With this system the maximum water usage for the prototype transmitter is estimated at 1000 gallons per hour (24,000 gallons per day). This volume is equivalent to the domestic requirements of a population of 160. The maximum water usage for the operational transmitter is estimated at 5,840 gallons per hour (140,000 gallons per day). This volume is approximately equivalent to the domestic requirement of a population of 940. Water used for equipment cooling will be unchanged from source water except for a temperature increase of up to 10°F. Water discharged from the equipment cooling system will be cooled to meet the temperature of the receiving stream. The waste water cooling system will be selected from an economic and environmental analysis of the following methods: cooling towers, radiators, or holding basins. The waste water, after cooling, will be discharged to an existing water course within the proposed site. The topography of the proposed site results in surface run-off to the east contributing to Heald stream thence to Austin stream, and will not affect Chase stream or Bassett brook. The flow rate of Heald stream is not available, the classification is "B-1". The 7 day - 10 year drought flow rate of Austin stream is 4.3 cubic feet per second (c.f.s.) (1933 - 1968), the classification is "A". The anticipated maximum waste water flow rate from the prototype system is 0.3 c.f.s. The anticipated maximum flow rate from the operational system is 1.8 c.f.s.

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(2) Receiver Sites.

Water will be obtained from on-site wells. There is no requirement for water cooling of equipment. The maximum water consumption for the prototype receiver site is estimated at 500 gallons per day. This volume is equivalent to the domestic requirements of a population of three. The water consumption for the operational receiver site is estimated at 750 gallons per day. This volume is equivalent to the domestic requirements of a population of five. These requirements will have minimal effect on the local water table and the watershed.

(3) Operations Site.

It is anticipated that the present water supply and sewage treatment facilities at existing military installations are adequate to meet the CONUS OTH-B Radar System requirements of 2500 gallons per day and will be used. For the prototype operations site, the requirement for domestic water would be 1250 gallons per day. This is equivalent to the domestic requirements of a population of eight. Since the receiver/operations functions are combined at one site for the prototype radar system, the total water requirement would be 500 (Receiver) plus 1250 (Operations) for a total of 1750 gallons per day.

.. Effect on Atmosphere.

The only source of atmospheric pollutants, other than water, will be the standby power plants. Standby power plants will not be provided for the prototype radar system but standby plants will be provided for the operational radar system.

(1) The best pollution control devices available within the current state of the art will be incorporated in these power plants. First, the engine generators will be selected with sufficient oversize capacity to assure that the exhaust is clean. Secondly, power plants at other installations where equipment using the principle of catalytic oxidation is in use will be carefully

checked to determine the suitability of such equipment for the power plants. Air pollution from standby power plants will normally be small since the individual engines will only be exercised biweekly. However, when the commercial power source fails to meet the full operational system needs at any time, the standby power plants will be operated. Based on experience of commercial power suppliers, it is expected that the commercial power may fail three or four times per year. Most of the outages will be during hot summer months due to electrical storms and heavy local usage. Outages may last a few minutes to several hours. The diesel fuel oil is Symtex DF2 which is free of all additives except octane improvers. The use of this high quality diesel fuel oil assures good combustion under all conditions of operation. Diesel fuel consumption at the transmitter site is estimated to be 300 gallons per biweekly exercise. If the standby transmitter power plant is required to operate continuously, it will consume 12,000 gallons of diesel fuel per day. About 150,000 gallons of diesel fuel oil will be stored in tanks at the transmitter site. The fuel storage tanks will be protected from corrosion by suitable coatings, cathodic protection or other methods compatible with the soil conditions at the sites. The survey and design will be accomplished by a competent corrosion protection engineer and will conform to all applicable regulations. The design and installation of these fuel storage tanks will be engineered to avoid oil spillage by the use of high liquid level alarms and facilities for regular pressure testing of the tanks and piping. Diesel fuel consumption at the receiver and operations sites is estimated to be 25 gallons per biweekly exercise for each site. If the receiver or operations power plants are required to operate continuously, they will consume 1200 gallons of diesel fuel per day. About 20,000 gallons of diesel fuel will be stored in tanks at the receiver and operation sites. The required diesel fuel will be delivered to the sites by truck from local suppliers. The exercise period for all power plants will be four hours per biweekly exercise.

(2) The silencers to be used for the engines in this power plant will provide a high degree of silencing. They are of the type in use in critical noise problem locations such as residential, hospital, school or hotel areas. The predicted attenuation is 25-30 db. at frequencies from 37.5-1200 cycles per second and 23-25 db. at frequencies from 1200-10,000 cycles per second. In addition, the materials of construction of the power

plant will be selected to minimize the noise level. The predicted sound pressure levels at the facility measured at a distance of one hundred feet will be 70 db. at 37.5 cycles per second to 50 db. at 10,000 cycles per second. The nighttime estimate of outdoor background noise is 45 db. at 37.5 cycles per second and 12 db. at 10,000 cycles per second. The forest will provide for a further abatement of any noise pollution at sites located in remote areas. Appropriate Federal, State and Municipal air quality standards will be observed in the design of the power plants.

c. Effect on Natural Resources.

(1) Transmitter Site.

The prototype transmitter site will require approximately 340 acres. The operational transmitter site will require an additional 840 acres. The proposed transmitter site is densely covered with various types of trees: the majority being Spruce, Pine, Cedar, Hemlock, Beech, Birch and Maple. They are characterized as soft and hard wood and are gauged for harvest for productive purposes. No survey has been made of the classes of timber. However, the present owners of the property will be granted rights to harvest all timber which will be removed for construction or for line of sight clearance. During system operation, vegetation will be kept below the three foot level by pruning as required. It is expected that all timber and residue will be used for lumber, pulpwood, firewood or mulch. Storm drainage systems will be provided in those areas where clearing, grading or filling alters existing drainage patterns. The storm drainage systems will preserve and utilize the natural drainage patterns to the maximum extent possible. The area to be cleared and graded for the construction of buildings, antenna and access roads will consist of approximately 20% of the site. Control of erosion of the site is not expected to be difficult due to the relatively flat slope, less than 1/7, and the stable granular subsurface material. Erosion and sediment control measures such as berms, dikes, drains or sedimentation basins will be provided where required, and will be maintained during construction until permanent drainage and erosion control facilities are completed. In addition to the area to be cleared and graded, approximately 20% of the site will require selective cutting and topping of trees to allow line of sight clearance for the antenna. The remaining 60% of the site will be preserved in its natural state.

(2) Receiver Site.

The prototype receiver site will require a maximum of approximately 325 acres. The operational site will require a maximum of an additional 975 acres for a total of 1300 acres. This includes the land purchased for the prototype. The proposed receiver sites are in a native blueberry area of Washington County where there are approximately 20,000 acres of blueberry land. The technically preferred receive site (given in the draft environmental statement) for the fully operational system would entail the use of a maximum of 975 acres of blueberry land. Option 1 (the compromise site) would require a maximum of 650 acres of blueberry land. The proposed sites are generally flat and treeless. The receive antenna will occupy approximately 90% of the site. With the exception of the filling and grading of "glacial kettleholes" the site will essentially remain in its natural state. Storm drainage systems will be provided in those areas where clearing, grading and filling alters existing surface drainage patterns. The storm drainage systems will preserve and utilize the natural drainage patterns to the maximum extent possible. Soil erosion of the receiver site(s) to the nearby waterways is expected to be minimal as a result of the existing topography and geology. The topography of the area has no established drainage pattern due to the granular subsurface material which allows rapid percolation of surface water to ground water levels. This will continue to keep surface runoff and soil erosion at a minimum. Erosion and sediment control measures such as berms, dikes, dairies or sedimentation basins will be provided where required and will be maintained during construction until permanent drainage and erosion control facilities are completed. The maintenance of the receiver site will preserve the site in its natural state to the maximum extent possible.

(3) Operations Site.

There will be no known significant effect on natural resources caused by OTH-L activities in the operations area for the operational system inasmuch as existing military facilities will be used.

d. Effect on Other Values.

(1) Effect on Parks, Recreational Areas and Historical Sites. The Department of Interior has stated that there are no known parks and/or historical sites on the acreage proposed to be used in the construction and installation of the CONUS OTH-B Radar System. Mr. James Mundy of the Maine Historical Preservation Commission has stated that there are at present no known historical sites in the immediate vicinity of the proposed locations for the radar in the State inventory. However, there is evidence of the presence of Indian artifacts at the proposed receiver site.

The proposed sites will not preclude the accessibility of recreational areas that are currently used for hunting, fishing, trapping, family camping and snowmobiling outside of the designated restricted areas. It is Air Force policy not to interfere with public access to any recreational area. The Air Force will cooperate on a continuing basis with State and local agencies with respect to access to the surrounding areas.

The aesthetics of the woodland area of the transmitter site and the barrens of the receiver site will be maintained to the maximum extent possible.

(2) Radiation Hazards.

(a) Personnel. A radiation hazard to personnel due to high RF field strengths exists only at the transmitter site and only within the boundary of the Government owned property. An estimate of the actual hazard area involved is given in Appendix A, Table 1. The hazard area extends for a distance of 2200 feet out from the front of the antenna for personnel in general and for 4400 feet in front of the antenna for personnel wearing cardiac pacemakers. These computations were revised from those originally given in the initial draft of 1972 as a result of more and better information becoming available. The transmitter site area will be specifically identified with WARNING signs in English and French. The signs will be posted at 300 foot intervals or less to warn against trespassing. Hazard areas will also be marked using Department of Defense approved USA Standard Radio-Frequency Hazard Warning Symbol (USAS C95.2 - 1966) as a guide. In addition a perimeter

fence will be installed. For personnel passing or working within the restricted area, appropriate standards consistent with those promulgated under the Occupational Safety and Health Act will be followed. Protection for personnel passing overhead is less restricted. The RF radiation level permissible for personnel is greater than that which would cause equipment damage. Thus, the human range limitation of 2000 feet (see Appendix A, Table 1) is well inside the hazard range limitation dictated by equipment restriction. Appendix A contains a detailed discussion of Personnel Radiation Hazards Criteria.

(b) Wildlife and Vegetation. The following discussion pertains to birds, ground or burrowing animals, larger mammals, low growing plants and tall trees.

1. Birds. There is no present evidence that the anticipated power densities for the system in the HF band of frequencies will affect birds in flight. Birds approaching the antenna elements themselves may be subjected to very high field strengths. Studies of mammals subjected to high conduction field strengths produced no evidence that harmful effects will be permanently felt. Large birds (such as cranes) on the ground outside the perimeter fence are unlikely to be affected. However, as they move closer to the antenna elements to about 400 volts per meter, some warming of the legs and neck may occur which should induce a flight response. Small birds are not expected to be affected.

2. Ground or Burrowing Animals. Animals entering the vicinity of the antenna elements may be subject to some warming; but laboratory animals exposed for hours to much higher power densities than those anticipated by the radar showed no variation in growth or reproductive potency. Ground animals outside the immediate vicinity of the antenna elements are not expected to be affected.

3. Large Mammals (Deer, Moose). Inside the exclusion fence, some warming of moose may occur at field strengths of about 400 volts per meter which is approximately 900 feet from the antenna. This thermal effect is well within tolerable limits. Deer would be much less subject to such heating because

of their smaller size. There is no anticipated effect on the deer population.

4. Low Growing Plants. Inside the exclusion area, field strengths approaching 400 volts per meter may cause early spring growth in 1 meter bushes. Later these bushes may be more fully developed than comparable bushes located elsewhere.

5. Tall Trees. These structures represent a long thin antenna in the HF band field and can be expected to be subjected to fairly large power densities inside the exclusion fence. This might result in some stunting of vertical growth especially trees higher than 10 meters which are exposed to field strengths of 400 volts per meter. Outside the perimeter fence no effect is expected.

(c) Electro-Explosive Devices.

1. Transported on Ground. Electro-explosive devices (EEDs) may be accidentally detonated by high RF field strengths. The hazard areas involved are detailed in Appendix A, Table 1. The hazard area for handling and use of EEDs outside a container extends outwards for 22,000 feet in the main beam of the transmitter while the hazard area for ground transportation of EEDs in a non-metallic container (fiberboard, paperboard, wood) extends to 10,000 feet. The hazard distance is reduced considerably when the EEDs are transported in metal containers. Personnel will be warned against using or carrying EEDs in the respective areas by appropriate warning signs in English and French posted at frequent intervals along the boundaries of the hazard area to preclude an inadvertent detonation of an EED. The most common example of an EED in public use is the dynamite cap. Actual tests made with dynamite caps at another OTH-B radar facility indicate that they will not accidentally detonate due to high field strengths unless placed within 500 feet of the antenna in the main beam.

2. Transported by Aircraft. Theoretical calculations indicate that aircraft carrying ordnance stores or

other EEDs will be required to avoid a hazard area which extends 5000 feet slant range outwards from the antenna in the main beam. Details of this area are given in Appendix A. As this hazard area lies completely within the restricted area required to protect against HF receiver damage the one restriction is sufficient for both hazards. Test results from an existing OTH-B radar with a comparable power output indicate that an airborne EED hazard will not occur beyond 1400 feet slant range in the main beam. The receiver and operations sites will not interfere with aircraft except for the possible need to avoid high structures which may be constructed.

(3) Radio Frequency Interference.

(a) Television Interference. The analysis of TV and radio interference was made by comparing calculated transmitter harmonic levels with an engineering estimate of levels that will cause television interference. The interference that could occur will be to UHF and VHF that are out of the transmitting band of the CONUS OTH-B Radar System. Radiated energy at VHF and UHF will be at much lower levels than system fundamental transmissions because of attenuation by harmonic filters and transmitter design. Good spectrum control of the transmitted pulse will be maintained to keep the effects to other users of the RF spectrum to a minimum. Also, protection is provided by television set design since the set is much less responsive to RF radiation in the high frequency band. Television interference caused by existing OTH-B systems of similar power output has been localized to within 1/4 to 1/2 mile of the transmitting antenna. The cases of TV interference that did occur were fixed by installing a high pass filter in the TV lead-in wire. The Navy HF receivers cited in the Environmental Impact Statement as requiring a 60 mile separation are within the fundamental transmitting band of the CONUS system. This is a much more severe case than the effects to out-of-band VHF and UHF. The CONUS OTH-B Radar System transmitter site will be located remote to population areas to reduce potential interference. In our estimate the closest populated areas in front of the transmitter are at least 10 miles distant. Therefore, the zone of expected TV interference, 3 miles, does not intersect any populated areas. Beyond that, an additional 7 miles of buffer is provided.

If upon activation of the system transmitter, interference does occur, the Air Force will have available teams of measurement and interference specialists. These teams will make measurements, investigate the technical causes and recommend fixes or corrective action. The receiver and operations sites will have no effect on television reception.

(b) Broadcast Band Radio Interference. Interference to broadcast band radio is not expected beyond the area described in paragraph 3.d.(3)(a). The receiver and operations sites will have no effect on broadcast band reception.

(c) Commercial Radio Interference.

1. HF Band (3-30 MHz). In-band interference with other licensed HF spectrum users will be avoided by the establishment of frequency guard bands around user frequency assignments. The radar system will also be provided with a look-through capability so that spectrum usage by other agencies can be identified and avoided on a real time basis. HF receivers tuned outside of the immediate operating band of the radar will receive interference as described in paragraph 3.d.(3)(a).

2. Interference with Other Bands (outside of 3-30 MHz). Interference to communications equipment operating outside the High Frequency (3-30 MHz) band should extend only to a distance of three miles in the radar transmit main beam. Communication links between men in the woods and others will be restricted only in the area adjacent to the transmit site. It is not expected that the interference will be general, nor that a very large area would be affected. Interference with State Highway Commission radio communication system is not anticipated. The distance to the nearest road in the main radar beam where mobile communications equipment would be expected to operate is 12 miles. This is well beyond the expected interference zone. The receiver and operations sites will cause no radio interference.

3. Aircraft HF Receiver Damage. High

intensity RF field strengths at frequencies near the tuned receiver frequency can damage sensitive HF receiver front end components. An estimate of the hazard area for airborne HF receivers is given in Appendix A, Table 1. This airspace extends out to a distance of 8000 feet slant range from the radar transmitter. Since the transmit antenna main lobe will not extend beyond 30° in a vertical direction from the horizontal, the restricted airspace will only extend to 5000 feet in altitude above the transmitter site. Thus, the estimated restricted space is bounded by a ground area that extends 8000 feet outward for 8000 feet in the antenna main beam area, 1800 feet in the antenna side lobe areas and 500 feet in the antenna back lobe area and includes all altitudes below 5000 feet above mean sea level. Tests with an OTH-B radar (AN/FPS-95) of comparable power output produced no damage to HF receivers even within 1400 feet of the radar in the main beam. An advisory not to use HF receivers within two miles of the site in the main beam was in effect. However, no restricted airspace was required. No advisory was needed for side or back lobe areas.

4. Other Aircraft Receivers (receivers operating outside 3-30 MHz). Out-of-band interference is not expected to extend beyond the boundaries described in paragraph 3d(3)(a). Actual tests made with other OTH-B systems have shown no interference to VHF, UHF, IFF or Radio Beacon system even when aircraft were only 1/2 mile from the transmitter and located in the main antenna beam. OTH-B systems against which these tests were run produce power densities comparable to that which the CONUS OTH-B radar transmitter will produce. See Appendix A for a map of the hazard areas.

e. Social-Economic Impact.

(1) Economic Impact. The proposed system has both a negative and a positive economic impact.

(a) The Negative Economic Impact entails the removal of up to a maximum of 650 acres (325 acres for the prototype system and up to 650 acres for the operational system) from the production of native lowbush blueberries; the loss of

job opportunities associated with the production and processing of blueberries; the removal of up to 1180 acres (340 acres for prototype and 1180 acres for the operational system) of timberland from the production of timber; and loss of job opportunities associated with the production and processing of timber. Rationale for these economic losses is provided in the following discussions.

The proposed system will be implemented in two phases. The initial phase consists of the construction, installation and operation of a prototype at two sites (transmitter and receiver/operations). This prototype system will last for approximately five years. If this phase is successful the second phase, which will consist of the construction, installation and operation of an operational system, will last for at least 10 years.

The currently proposed site for the prototype receiver will remove up to a maximum (depending on the type of antenna selected) of 650 acres (of the approximately 40,000 acres of lowbush blueberries which are commercially harvested in Maine) from the production of native lowbush blueberries.

The quality of the 650 acres of blueberry land varies considerably from plot to plot and even within plots. Plot A of Option 1 (the compromise option) is in the opinion of Dr. Amr. A. Ismail (Assistant Professor of Horticulture and Extension Blueberry Specialist, University of Maine, Orono) above average and should yield 1500 pounds per acre while Plot B of Option 1 is average and should yield 1200 pounds per acre. Plots C and D of Option 1 do not produce a significant amount of blueberries. Plot D is an old Air Force bombing range.

Due to the agricultural practices employed by Maine blueberry growers, this land is harvested every other year. Hence on an annual basis 325 acres would be removed from the production of blueberries. Based on an average yield of 1350 pounds per acre (average of 1500 and 1200) and a field price of \$.18 per pound (price in 1974) the value of the blueberries produced on the maximum amount of land to be taken out of production by the prototype would be \$ 39,488.00 annually.

The operational system would result in a maximum of 650 acres being taken out of production. Based on an average yield of 1350 pounds per acre and a field price of \$.18 per pound, the value of the blueberries produced on the maximum amount of land to be taken out of production by the operational system would be \$ 78,975.00 annually.

The field price of the blueberries does not represent the total value of the blueberries to the State of Maine. Dr. Amr A. Ismail has calculated that the production, harvesting, handling and processing of 220,000 pounds of blueberries (the amount of reduced production caused by the prototype) accounts for about \$ 66,000.00 of annual income largely to local people in Washington County. He also has calculated that the production, harvesting, handling and processing of the 440,000 pounds of blueberries (the amount of reduced production caused by the operational system) accounts for about \$ 132,000.00 of income largely to local people in Washington County.

The site for the prototype transmitter will remove a maximum of 340 acres from the production of timber. In this area, timber is harvested at 40 year intervals. This particular land is expected to produce timber over the 40 year period which is valued at approximately \$70.00 per acre. The loss of timber production would be \$ 23,800.00 over the 40 year period or approximately \$ 595.00 per year.

The operational system would result in a maximum of 1180 acres being taken out of the production of timber. Based on the 40 year harvest period and a yield of \$70.00 per acre, the timber produced on the maximum amount of land to be taken out of production by the operational system would be \$ 52,600 over the 40 year period or approximately \$ 2,065.00 per year.

The loss of job opportunities associated with the production and processing of timber would average a fraction of a manyear on an annual basis.

(b) The Positive Economic Impact consists of the short term and long term job opportunities and the increased requirements for materials, supplies and services resulting from the installation and operation of the proposed system. The creation of year around jobs is especially important in Washington County which had an annual average unemployment rate of 9.0% in 1973 and 8.8% in 1972. The unemployment rates are especially high in the spring when the unemployment rate approaches 15%. The rationale for these economic gains to the surrounding communities is provided in the following discussion.

1. The construction, installation, testing and operation of the prototype and operational radar systems will result in substantial new job opportunities at the transmitter, receiver and operations sites.

Tables 1, 2 and 3 of Appendix G provide breakouts by site for the expected number of new jobs (broken out by local and other) and the estimated annual payroll in FY74 dollars for the prototype and operational radar systems. The expected number of local personnel was determined by examining the skill levels required and those which exist within commuting distance of the sites.

The payroll will vary with the site and the particular activity underway in a given time period. The following are the estimated annual payrolls for the various sites for the operational radar system.

Receiver site	\$ 430,000
Transmitter site	\$ 430,000
Operational site	\$ 1,700,000
<hr/>	
Total	\$ 2,560,000

The construction, installation, testing and operation of the prototype and operational systems will result in increased requirements for materials and services in the surrounding communities since 25% to 75% (depending on the particular phase of the program) of the site personnel will be recruited from outside the commuting area. There will be a

considerable increase in local requirements for housing, sustenance, transportation, miscellaneous goods and services in support of this work force. Additional requirements will exist for building materials, supplies and construction equipment much of which will be procured locally.

The job opportunities resulting from the proposed program will result in the creation of additional jobs. Established regional economic theory indicates that approximately 8 to 10 people are added to a region for each new "basic" job that is created. The additional people consist of the family of the job-holder, the support jobs needed to service the new family (i.e., store clerks, policemen, school teachers, etc.), the support people needed to service the first support families, their families, etc.

(2) Social Impact. The radar sites should not cause a significant social impact on the surrounding communities. Approximately half of the personnel employed at receiver and transmitter sites during the construction, installation and test of the prototype radar will be local people. The other half will be temporary outsiders who will be at the receiver and transmitter sites for varying time periods dependent upon the particular phase of the program they are involved in.

During the operational phase half of the personnel employed at the receiver and transmitter sites will be local people with the other half being people who will move to the area for an extended period of time. There will not be any military housing at either the receiver or the transmitter sites so these people will live within the community. Therefore, all increases in local services will be compensated on the same basis as for present residents. Since the number of people involved is quite small, the surrounding communities should have no difficulty in assimilating these individuals and their families. The situation should be quite similar to the current situation at Bucks Harbor where a substantial (approximately 50) number of military families live in the surrounding community.

Since the operations site for the operational radar system is to be established on an existing military base, it

is not expected to have a significant social impact on the surrounding community. If Bucks Harbor is selected, no significant change is expected from the current situation as far as housing (two-thirds being on base, the remainder in the surrounding communities), schools, and the relation of the base to the surrounding community.

Since the number of new jobs for the prototype is small (20 each at the receiver/operations and transmitter sites) and there are several towns and cities in each locality, the additional requirement for housing, schooling, medical services and other municipal services such as police, fire, roads, waste disposal, etc., may or may not have a substantial impact on any particular community depending on the number of new residents it attracts. At the operations site for the operational radar system, the military personnel will use facilities and services to the extent they exist at the Government installation, thus reducing the requirement for services from the adjacent communities. If Bucks Harbor (the smallest of the military facilities being considered) were selected, the impact on the communities would be very similar to the situation which currently exists.

f. Commercial Power Service.

Commercial power service will be supplied to each site by means of wooden pole lines from existing power lines near the sites. The power line from the existing Central Maine Power distribution system to the proposed transmitter site will be approximately two miles long through woodland. An overhead power line will require a cleared easement approximately 100 feet wide and will result in clearing of approximately 25 acres. The exact location of the power line will be determined from facilities requirements when established in the preliminary design stage. Avoidance of existing wild life habitats will be a consideration in selecting the exact location. The power line from the existing Bangor Hydro-Electric distribution system to the proposed receiver site will be approximately five miles long and will utilize an existing pole line on existing Rights-of-Way. The Power supply to the operations site will utilize the existing power distribution to the selected location.

The power service for the transmitter site will have a capacity of three megawatts for the prototype radar system and twelve megawatts for the operational radar system while the service for the receiver and operations sites will have a capacity

of less than one megawatt for the prototype radar system and one megawatt for the operational radar system. Final routing of service lines will be determined by the utility company in each case. It is planned that existing power lines will be improved to provide three phase service to the receiver site in lieu of acquiring new easements. All power companies in Maine are connected to a New England wide network. Local commercial power plant expansion will not be required.

g. Access Roads

The following paragraphs identify the roads which will be used for access to the proposed sites. The proposed transmitter and receiver sites are currently accessible by two wheel drive vehicles, over existing gravel surfaced roads. The Federal Government will not impose any restrictions or controls on these roads outside of the boundaries of the proposed sites.

(1) Access to the proposed prototype transmitter site will be via an existing logging road from the north side of Mayfield Road (State Rte #16) southwest of Elmer Baker Road. This logging road is passable by automobile for a distance of 8.4 miles and will be used by the Air Force "as-is". At this point access will follow a second logging road for approximately 2 miles to within approximately one-half mile of the proposed site. While this road is currently passable by automobile, it will be improved. A new road will be constructed over an existing unused logging road for the final half mile. The total length of the access road is approximately 11 miles. Improvements to existing roads and construction of new roads will be the responsibility of the Government. Access roads will be marked with appropriate signs in both English and French.

(2) The proposed access road to the operational radar system transmitter site will utilize the existing county road which parallels Austin stream (Chamberlain Hill road) to the point where it turns north at the overhead power line. The location of and route to be followed from this point to the entrance of the proposed transmitter site, approximately three miles, will be determined from topographic data and recommendations of affected property owners. It is planned to pave this access road from the termination of the existing pavement to the entrance of the transmitter site.

(3) The proposed access road to the technically preferred receiver site will utilize an existing gravel surfaced access road from the north side of the Tibbettstown road for a distance of approximately 2.0 miles to the center of the receiver site area south of Monterail Pond. The proposed access road to the Option 1 receiver site will utilize existing gravel surfaced access roads from the north side of the Tibbettstown road for a distance of approximately 5.0 miles to the center of the receiver site area north of Monterail Pond. The road is passable by automobile and will be improved to allow all weather access to the site. The actual location of the Government property may result in the relocation of the existing road network. Where property boundaries intercept existing roadways or trails, the Government will construct roadways outside the perimeter fence for "civil use".

(4) Access to the operations site will utilize existing entrance road to whichever installation is selected.

h. Solid Waste Disposal.

Solid waste volume will be very limited since personnel will not reside on the transmitter and receiver sites.

(1) At the transmitter site, solid waste will be disposed of in areas designated by local authorities.

(2) At the receiver site, solid waste will be disposed of in areas designated by local authorities.

(3) At the operations site, solid waste will be disposed of through the existing disposal system.

(4) Paper waste which will constitute the major portion of the solid waste will be available for recycling.

i. Site Personnel.

On-site personnel will be protected against biomedical, electrical and toxic effects as described in Appendix A, Table 2 and in accordance with the standards of the Occupational Safety and Health Act of 1970.

j. Electromagnetic Compatibility (EMC) Tests.

To insure that the precautions described in this statement are adequate and to confirm estimates of environmental impact, a complete series of EMC tests will be done at the transmitter site during the prototype test period. These tests will include as a minimum:

- (1) Field strength measurements at hazard boundaries and within hazard boundaries.
- (2) Field testing of typical TV and radio receivers to check for possible radio frequency interference.
- (3) Testing of EEDs and cardiac pacemakers in the appropriate RF field strengths.
- (4) Spectrum analysis of the radar RF radiation to ensure that HF guard bands are adequate.

Section 4. Adverse Environmental Effects Which Cannot Be Avoided.

a. Measures and controls will be implemented to minimize the impact of any adverse environmental effects. These measures and controls include:

(1) Proper planning, siting, design and installation of all components in accordance with latest engineering practices and applicable Federal, State and Municipal standards.

(2) Air Force cooperation with State and local agencies throughout the life of the project. As provided in the Clean Air Act and Federal Water Pollution Control Act, the Air Force will fully comply with all applicable State substantive requirements with regard to control and abatement of air and water pollution. The Maine land use regulatory statutes do not apply to Federal developments, however, it is Department of Defense (DCD) and Air Force policy to cooperate with State and local environmental agencies in accordance with the requirements of The Office of Management and Budget Circular A-95 and to provide environmentally related information and data regarding DOD facilities and activities that are available or can be obtained readily and are relevant to a determination of compliance with State and local standards or emission limitations. However, DOD components are not required to apply for State and local air and water pollution control permits or licenses for the construction or operation of facilities, including certification of operators, nor are they required to register their facilities if the registration process is, in effect, a permit application that would lead automatically to issuance of a State permit or license. Registration of facilities will be accomplished to the extent necessary to advise State and local authorities of the scope of DOD activities. Modified versions of application forms have been received by the CONUS OTH-B Radar System Program Office from the State of Maine. The forms will be completed and returned to the State of Maine for informational purposes.

b. Adverse effects and actions to be taken are:

(1) Adverse effects from the transmitted RF energy which include:

(a) RF interference with communications systems operating in close proximity to the transmitter (see Paragraph 3.d.(3)). Interference will occur in all sectors within a one mile radius of the transmitter and within the radar main beam up to a distance of three miles. However, to minimize interference with communications systems operating outside this area, the transmitter will be designed to provide adequate harmonic suppression to avoid interference outside the 11 MHz band. Also, frequency management and guard bands will be employed to minimize interference within the HF band.

(b) Restriction on the use and transportation of EEDs near the radar transmitter to prevent possible detonation of the EEDs (see Paragraph 3.d.(2)). The transmitter site is isolated from population centers and main transportation routes. The hazard area will be identified by warning signs (in both English and French). These signs will be posted along all roads intersecting the hazard area and along the boundaries of the hazard area.

(c) Restriction on the use of the airspace immediately around the transmit antenna (see Paragraph 3.d.(3)) to prevent damage to aircraft HF receivers, possible detonation of airborne EEDs and radiation hazards to passengers. The transmitter site is located a minimum of five miles from existing controlled air routes. The identification of the restricted airspace will be coordinated with FAA.

(d) Emergency plans and procedures will be formulated to outline the actions which must be taken to insure maximum protection and performance of personnel and equipment involved in emergency actions. These emergency actions may be required when any contingency and/or emergency situation warrants entry into:

1. The hazard area within the transmitter site perimeter fence.
2. The EED hazard area outside the transmitter site perimeter fence.

2. The restricted airspace around the transmitter site.

A listed phone number for the operations facility will be made available for use by the public when any contingency and/or emergency situation requires coordinated action between the Air Force and the State of Maine and/or the public. Local coordination will be maintained with the FCC Engineer-in-Charge (Belfast, Maine) to avoid interference to non-Government services (see Appendix A, Maps 1 and 2).

(2) Possible environmental pollution from standby power plants and associated fuel storage systems which are required for the operational system (see Paragraph 3.b.).

The final design of these power plants and fuel storage systems is not known at this time, however, any adverse effects will be minimized in accordance with paragraph 4.a. of this document. In addition, Spill Prevention Control and Countermeasure Plans will be prepared in accordance with the Oil Pollution Prevention guidelines published in the Federal Register on December 11, 1974.

(3) Possible environmental pollution from the effluent from sewage systems and other drainage systems (see Paragraph 3a).

The design of these systems is not known at this time, however, any adverse effect will be minimized in accordance with paragraph 4.a. of this document.

(4) Possible environmental pollution resulting from clearing, grading and filling the land required for the transmitter and receiver sites (see Paragraph 3.c.).

(a) Any adverse effects will be minimized in accordance with paragraph 4.a. of this document.

(b) The disposal of any debris resulting from land preparation activities will be conducted in accordance with the appropriate environmental protection standards.

(c) The cleared areas will be replanted using vegetation native to the location, graded and stabilized to prevent soil erosion and to restore the aesthetic quality of the region to the maximum extent possible.

(5) Possible environmental pollution resulting from methods and procedures used in vegetation control and pest control activities.

These methods and procedures have not been formulated at this time, however only EPA-registered products will be used and use will be in accordance with label directions on these EPA-registered products. Any adverse effects will be minimized in accordance with paragraph 4.a. of this document.

(6) Access roads and construction of any new roads are described in paragraph 3.g. Any adverse effects will be minimized in accordance with paragraph 4.a. of this document.

(7) Power line rights of way and associated impacts are described in paragraph 3.f. and any adverse effects will be minimized in accordance with paragraph 4.a. of this document.

Section 5. Alternatives to Proposed Actions.

a. No Action. The decision of no action would have the effect of leaving undisturbed the proposed transmitter and receiver sites. There would be no change in the socio-economic condition of the local areas. The commitment of resources and expenditure of funds presently allocated for the project would not be required.

This decision would prevent the extension of our ability to detect aircraft at great distances. Thus the United States would forego a new and unique capability that would afford long range warning and surveillance of potentially hostile aircraft approaching the United States. Further, the creation of new job opportunities in an economically depressed area of the State of Maine would be precluded.

b. Design a Pulsed Doppler Radar, or an FM/CW Radar. A high frequency radar which operates in the frequency range from 5 to 30 MHz is radically different from the typical microwave line-of-sight radar which operates at frequencies above 400 MHz. The lower HF frequencies required for ionospheric over-the-horizon propagation use a much longer wavelength than microwave radars. Consequently, to achieve angular resolution which is sufficient to resolve aircraft flying in the North Atlantic corridor, antenna apertures considerably larger than those used at microwave frequencies are required. Typical HF antennas require broadside dimensions in the order of 4000 feet. Therefore, space is an important consideration in such a radar.

Various types of HF radars have been operated with numerous physical and electrical differences. A pulsed type radar emits a short, but high powered pulse of energy. During the blank period, the return echo is received on the same antenna. Such a radar can use a single site for both its transmitter and receiver, since the receiver can receive energy between transmitted pulses and protect itself from damage when the transmitter actually pulses. In an FM/CW system a continuous wave, which is frequency modulated, is employed and energy is continuously being transmitted. Consequently, a separate receive system must be used. In order to attenuate the direct transmitted signal and receive only the return echo, the receiver site must be located about 100 miles from the transmitter site to take advantage of earth curvature and ground attenuation. While the target detection performance which is provided by the HF radar system is independent of the particular waveform design which is employed (pulsed Doppler or FM/CW), there are two important advantages for the use of FM/CW. First, the use of transmitters operating at constant power levels well below the peak levels required for a pulsed system permits the use of lower cost off-the-shelf transmitters. Second, the use of CW transmitters results in

lower levels of interference than those which would result from use of high peak power transmitters. This is particularly important when consideration is given to the separation requirements for heart pacemakers which are affected particularly by the periodicity of the pulsed type interference. Consequently, the decision was made to employ an FM/CW system approach for the CONUS OTH-B Radar System and the site selection criteria were modified to accommodate the bistatic configuration, i.e., transmitter and receiver sites separated by about 100 miles.

C. Candidate Sites. Many locations in the Northeast United States were considered as sites for the transmitter, receiver and operations function for the CONUS OTH-B Radar System. The criteria used to select the transmitter and receiver sites are listed on pages 3-5 of this environmental statement. As a result of the continuing evolution of the CONUS OTH-B technical requirements as discussed on pages 5 to 8 of the statement, many sites were eliminated from consideration after detailed analysis and evaluation.

The primary reasons for elimination of possible transmitter sites on or near existing Government installations were the total incompatibility with existing civil and military activities and the violation of existing FAA controlled airspace. The primary reasons for elimination of possible receiver sites were the requirement for a wide aperture array and the requirement of a minimum 100 mile a wide aperture array antenna, which requires a 6000 ft long, 2000 ft long, 800 ft deep secondary array for each sector of coverage, and the requirement of a minimum 100 mile separation from the transmitter site. As a result of the elimination of many sites, as noted above, the number of sites under consideration had been reduced to five candidates for the transmitter and six candidate sites for the receiver by late 1974.

(1) Specific Sites Criteria. The criteria which were used in selection of the proposed sites include those factors which would be differentially affected. These were:

(a) Non-Interference Requirements

- (1) Population/Industry
- (2) Proximity of existing military or civilian radio/TV communications.
- (3) Separation between the transmitter and the receiver.

(b) Site Requirements.

- (1) Size of site/existing topography.
- (2) Vertical obstructions on horizon.

(3) Capability for expansion to operational radar systems.

(c) Support Requirements

(1) Existing military support.

(2) Availability of commercial electric power.

D. Transmitter Sites. In addition to the Moscow site, other candidate transmitter sites and primary reasons for non-selection included:

(1) Forks - The location of the small community of Lake Moxie approximately 2½ miles in the direction of the main transmission beam forms a serious restriction. Also, Mosquito Mountain approximately 3 miles to the southeast would seriously interfere with transmissions in the expanded operational configuration.

(2) Brownville - The Brownville site is located within FAA controlled airspace and would seriously affect air traffic in the vicinity of Millinocket. Also, the topography is such as to seriously interfere with expansion to the operational configuration.

(3) Atkinson Mills - The Atkinson Mills site is located within FAA controlled airspace and would seriously affect air traffic in the vicinity of Millinocket. Mutual interference with the long range radar located at Charleston, approximately 5 miles to the southeast, would be intolerable. Also, Bull Hill, approximately 2 miles south, would seriously interfere with transmission in the expanded operational configuration.

(4) Caribou - The Caribou site is located within FAA controlled airspace and would seriously affect air traffic in the vicinity of Loring Air Force Base as well as Caribou and Presque Isle. The combined population of the nearby communities of Caribou, Limestone and Loring Air Force Base is in excess of 25,000. Also, the general topography would result in extremely high site preparation costs.

E. Receiver Sites.

(1) Option 1. As a result of the concerns expressed, the Air Force studied arrangements of the receiver antenna in the same area as the site proposed in the draft environmental statement. Option 1 as shown on page 74 Appendix E represents a satisfactory compromise which takes into account the concerns of the local citizens and needs of the Air Force. Rather than using a maximum of 975 acres of blueberry land, it use a maximum of 325 acres in the prototype system and 650 acres in the operational system. This will increase the cost \$380,000 for the prototype and \$2,510,000 for the operational system. This

is the Air Force recommended location for the receiver site.'

2. Bull Hill Barrens - Option 2. This would have the least economic impact on the local community of taking blueberry land of production but would increase the cost \$2,961,000 for the prototype system and \$8,144,000 for the operational system. This additional cost is for site acquisition, site preparation, roads, power, facilities, communications, maintenance and personnel.

Also since this would be a split operation, there is the secondary environmental impact of roads in the area and a bridge over the Machias River. This could have a significant impact on water quality, wildlife, recreational and aesthetic quality of area.

3. The primary reason for non-selection of the following alternative receiver sites was the requirement for a large flat area to accommodate the 6000 feet long wide - aperture antenna in the prototype configuration and even greater requirement to accommodate four such antennas in the expanded operational configuration. In addition to land area, the following sites suffered from the following restrictions:

A. Atkinson Mills - Vertical obstruction posed by Bull Hill approximately 2 miles south, and interference from the long range radar at Charleston only 5 miles distant pose serious restrictions. In addition Atkinson Mills would provide only 40 miles separation from the proposed transmitter site at Moscow, Maine.

B. Burnham - The Burnham site would provide only 35 miles separation from the proposed transmitter site at Moscow, Maine.

C. Liberty - The Liberty site would provide only 60 miles separation from the proposed transmitter site at Moscow, Maine.

D. Caribou - See paragraph 1.c., page 7 for detailed discussion of Caribou as a receiver site.

Further information on all site selection is presented in tabular form in Appendix E.

Section 6. Relationship Between Local Short-Term Use of Man's Environment and the Maintenance and Enhancement of Long-Term Productivity. It is anticipated that the installation and operation of the CONUS OTH-B Radar System will have minimal significant long term effect on the environment. It is anticipated that the prototype radar system will have a life span of five years, at which time it will be incorporated into the CONUS OTH-B Radar System which will have a life span of ten years.

The disposition of the land involved after the Air Force no longer has need for it, depends upon the purchase agreements negotiated with the current owners of the land. The purchase agreements could stipulate that the current owners or their heirs would have the option of repurchasing the land when it is no longer needed by the Air Force. Depending on the agreements negotiated at the time of purchase and the situation at the time when the Air Force no longer needs the land it is possible that the land could be given to the State of Maine by the Federal Government. According to the Real Estate Planning Report, May 22, 1974, written by the Army Corps of Engineers, there are no public lots involved.

After termination of the radar system, the land may eventually revert to its former use. The transmitter site can be replanted and reforested to restore the aesthetic beauty of the land. This land could produce marketable timber within forty years from replanting, which is the normal growth-cycle time. At the receiver site a more complex situation exists. The restoration of land presently used for the production of lowbush blueberries may not be economically feasible. Where productive land may be occupied by buildings and paved areas, replanting will be required. According to Amr Ismail, professor of horticulture and blueberry specialist with the University of Maine, there are no economical commercial methods at present for establishing large acreages of lowbush blueberry fields. While research efforts in this area have made significant progress, many practical questions need to be answered before large scale commercial plantings of lowbush blueberry fields are a reality. When and if such fields are established, it will be several years before they are commercially productive. The remainder of the presently productive blueberry land within the receiver site boundaries may suffer from the lack of cultivation. Professor Ismail contends that native lowbush blueberry stands when neglected undergo changes in their floral composition. If cultural practices are discontinued, a steady decline in the blueberry productivity and increase in the population and size of competing species ensues. Four or five years of neglect

may be accompanied by sufficient changes in the growth characteristics in the field to render it uneconomical for commercial production of lowbush blueberries. It may take four to six years and a considerable expense to bring this field back to economical production of berries. Discontinuation of cultural practices for 15 years, the expected life span of the receiver system, may result in changes in the flora that will make it uneconomical to reconvert the area to commercial production of native lowbush blueberries.

The cumulative environmental effects from power plant noise and exhaust emissions are expected to be negligible. The RF radiation hazards to personnel and wildlife at the transmitter site will exist only during the life of the radar system and then only within the hazard areas identified in this statement. There are no known long term radiation effects environment. The quality of adjacent streams and ponds will be protected by proper treatment of effluents from the radar sites.

Section 7. Inventory of Irreversible and Irretrievable Commitments of Natural Resources. The installation of radar antennas and buildings at the transmitter and receiver sites could be considered an irretrievable commitment of natural resources for the life of the system.

a. Transmitter Site.

- (1) The clearing of the land of trees would cause the loss of one full cycle of timber growth.
- (2) Fuels used to generate standby power for the operational system could be considered as an irretrievable commitment of natural resources.
- (3) The quantity of sand and gravel for drainage beds, base material for roads and foundations and random fill is retrievable. However, the quantities of sand, gravel and cement used in the production of concrete will be irretrievable for all practical purposes.

b. Receiver Site.

- (1) The harvesting of blueberries for at least fifteen years would be lost.
- (2) Some cultivated blueberry land may be irretrievable after the termination of the radar system due to the land area occupied by buildings, paved areas and antenna structures.
- (3) The comment contained in paragraph 7.a.(3) related to sand, gravel and cement is also applicable to the conditions at the receiver site.

c. Operations Site. There will be minimal commitments of natural resources that are irreversible or irretrievable at the operations site since an existing military installation will be used for the operational system.

There are no other significant commitments of natural resources that are irreversible or irretrievable in the CONUS 6TH-B Radar System Program.

Section 8. Unresolved Controversies.

a. There are no known unresolved controversies.

b. In the spring of 1972, a site in Liberty, Maine, then under consideration, created considerable local controversy. A suit was filed on May 9, 1972 against Melvin Laird, Secretary of Defense and Robert Seamans, Secretary of the Air Force, by Willard H. Myers III, Judith W. Myers and Phyllis Cross. The suit was based on the detrimental effects on the environment of the State of Maine resulting from the planned Air Force radar installation. The suit was dropped with the stipulation that the revised Draft Environmental Statement would identify the exact location of the site and would be subject to review and comment of the citizens and officials of the State of Maine. The Air Force terminated interest in this location in late 1972 as a result of a detailed systems acquisition/life cycle cost analysis.

c. During the period from May 1972 to September 1972, several meetings and telephone discussions were held between the Air Force and interested state agencies. The meetings and discussions were followed by an interchange of correspondence with a number of comments and areas of concern expressed by the State. The comments and concerns summarized by the Land Use Regulation Commission were health hazards, clearing of land, erosion, disruption of wildlife habitat, hazard to aircraft, cancellation of radar system, electrical power drain on dwindling reserves, fuel consumption contributing to fuel shortage and air pollution, impact of access roads and power transmission lines, sanitary waste disposal and water quality, impact on natural and historic features of the area. A sincere effort has been made by the Air Force to consider all comments made by the State.

d. In May 1972, Governor Curtis of Maine in a letter to the Air Force expressed his appreciation for the efforts of the Air Force of informing the various State agencies of the general requirements of the program and his pleasure with the spirit of cooperation and hopes for its continuance. A sincere effort has been made to keep the various State agencies

apprised of the Air Force requirements, within the bounds of security regulations and this will continue.

e. A July 1974 issue of the Draft Environmental Statement was published and disseminated by the Air Force for comment by the public and Federal, State and local interested agencies. In August 1974 Air Force personnel attended meetings of the North Kennebec (Moscow, Maine) and Washington County (Harrington, Maine) Regional Planning Commissions. At the meeting in Harrington, substantial objections were raised to the Air Force's technically preferred receiver site because of the preponderance of blueberry land that would be required. At the public hearings convened in Moscow and Harrington, Maine on September 11 and 12, 1974, the Air Force presented alternatives to the technically preferred receiver site. These were Options 1 and 2. Option 1 decreased the amount of blueberry land required, increased the cost for site preparation and still remained technically viable. Option 2 eliminated the blueberry land requirement but escalated the cost of site preparation extensively. On September 13, 1974, a public hearing was held at the State House in Augusta, Maine. Since the public hearings the Air Force has received all comments generated by the publication of the draft statement. These have been considered and incorporated in this document.

f. Comments contained in paragraph 8.c. and comments generated as a result of the activities outlined in paragraph 8.e. were considered and addressed in this edition of the environmental impact statement.

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APPENDIX A

DERIVATION OF FIELD STRENGTHS AND HAZARD AREAS

- Table 1 - Hazard Areas
- Map 1 - Hazard Areas (Prototype)
- Map 2 - Hazard Areas (Operational)
- Table 2 - On-Site Personnel Protection Against  
Biological, Electrical and Toxic Effects

## APPENDIX A

### DERIVATION OF FIELD STRENGTHS AND HAZARD AREAS

1. The RF field strength at any point in free space can be calculated using the formula:

$$P_{fs} = \frac{Pt \cdot Gt}{(4\pi R)^2} \quad (1)$$

assuming antenna far field conditions exist. The term  $1/(4\pi R)^2$  represents the Effective Radiated Power (ERP) where

$Pt$  = transmitter output power

$Gt$  = transmit antenna gain

The term  $1/(4\pi R)^2$  is the free space spreading loss (the inverse square law applied over a solid angle of  $4\pi$  steradians).

It is convenient to convert this formula into logarithmic form. Using as units millivolts and meters equation (1) becomes:

$$P_{fs} (\text{dBm}/\text{m}^2) = Pt (\text{dBm}) + Gt (\text{dB}) - 20 \log (R) - 10 \log (4\pi) \quad (2)$$

2. In practice, due to the large antenna structures used in HF radars, most field strengths of interest will be in the near field rather than the far field of the antenna. The main effect of the near field is a reduction in the effective antenna gain  $Gt$ . Therefore, calculations using the far field formula (1) will be somewhat high. It is not possible to precisely estimate the near field strengths at any point until the exact antenna type is known.

3. Due to ground attenuation it is unrealistic to use free space propagation loss for ground level strength calculations. The radar will typically use a large ground screen in front of the antenna. A much better approximation for path loss for this case is to assume free space loss from the edge of the antenna to the edge of the ground screen and a fall off of 12 dB/octave beyond that. This represents an average ground attenuation rate for a range of soil conditions from damp, wooded flat land (dielectric constant  $\epsilon = 12$ , ground conductivity  $\theta = 0.011 \text{ mho}/\text{m}$ ) to sandy or rocky hill land

( $\epsilon = 5$ ,  $\Theta = 0.0001$  mho/m). The ground level field strengths have been derived by the use of formula (1) using the above criteria. A maximum size ground screen may extend 2000' in front of the antenna in the main beam and for 50' in other directions (back and side antenna lobes).

4. The radar parameters necessary to perform the field strength calculations are listed below:

$P_t = 2,400$  Kilowatts

$P_t$  (dBm) = 93.9 dBm

$G_t = 25$  dB (main lobe)

12 dB (side lobe)

5 dB (back lobe)

5. A summary of the results derived using the methods outlined in the foregoing paragraphs is shown in Table 1. For convenience, the extent of the hazard areas is given in units of feet where main, side and back antenna lobes are considered. Also, the area of the hazard zone in acres is provided.

APPENDIX A - TABLE 1

Hazard	Standard used	Source for Standard	HAZARD AREAS			Comments
			Distance Hazard Area Extends Outward from Antenna in Main, Side and Back Antenna Lobes		Total Hazard Area	
<u>Antenna Lines</u>						
Personnel Radiation	50 dBm/ $\text{m}^2$ (10 mW/cm <sup>2</sup> )	Air Force 7-0 B1Z1C-2	Main 2200'	Side 167'	Back 120'	88 Ground level calculation
Heart Pacemaker	39 dBm/ $\text{m}^2$ (50 v/m)	Radiobiology Division School of Aerospace Medicine USAF	4400'	335'	220'	355 Ground level calculation
Using and Handling EEDs on Ground	10 dBm/ $\text{m}^2$ (2 v/m)	Air Force Manual 127-100 Chart 6-2	22000'	1700'	1100'	8350 Ground level calculation
Ground Transport of EEDs in a Nonmetallic Container	24 dBm/ $\text{m}^2$ (10 v/m)	AFM 127-100 para 6-2-2d(1)	10000'	740'	500'	1820 Ground level calculation
EEDs (On-board Aircraft)	44 dBm/ $\text{m}^2$ (100 v/m)	AFM 127-100 para 6-2-2d(4)	5080'	1140'	508'	500 Free space calculation
HF Receiver Damage	40 dBm/ $\text{m}^2$ (61 v/m)	ECAC STP-192	8000'	1800'	805'	1240 Free space calculation

APPENDIX A - TABLE 2

ON-SITE PERSONNEL PROTECTION AGAINST  
BIOLOGICAL, ELECTRICAL AND TOXIC EFFECTS

<u>Hazard</u>	<u>Applicable Documents</u>	<u>Protection to be Provided</u>	<u>Source of Hazard</u>
Ionizing Radiation - Defined as any emission regardless of penetrating ability which can cause ionization on the surface or within the human body. This refers to accelerated particle bombardment by x-rays or radioactive particles.	1. MIL-R-9673B - Radiation limits, Microwave and X-radiation by Ground Electronic Equipment. 2. AFR 161-8 - Control and Recording Procedures, Occupational Exposure to Ionizing Radiation. 3. AFM 160-6-7 - Maximum Permissible Body Burdens and maximum permissible concentrations of radionuclides in air and in water for occupational exposure	Area occupied by personnel will not exceed limit specified in MIL-R-9673B. All electronic devices capable of producing ionizing radiation will be so designed, fabricated, shielded and operated so as to avoid over-exposure to personnel. All devices containing radioactive material will be constructed to ensure that personnel are not exposed to ionizing radiation levels above the stated criteria.	Low energy from tubes with high peak plate voltage. Radioactive materials in radio tubes and computer anti static devices.
Nonionizing Radiation - Refers to radiation from high intensity radio frequency fields.	1. MIL-R-9673B - Radiation limits, Microwave and X-radiation by Ground Electronic Equipment. 2. AFM 161-7 - Control of Hazards to Health from Microwave Radiation.	Personnel will be protected against exposure to radiation levels above $10 \text{ mW/cm}^2$ by construction and shielding techniques and by restricting passage into areas where high intensity fields exist.	Radio frequency energy from radar transmitter

APPENDIX A - TABLE 2 (Cont'd.)

ON SITE PERSONNEL PROTECTION AGAINST  
BIOLOGICAL, ELECTRICAL AND TOXIC EFFECTS

<u>Hazard</u>	<u>Applicable Documents</u>	<u>Protection to be Provided</u>	<u>Source of Hazard</u>
Electrical Hazards	1. MIL-STD-454 - Standard General Requirements for Electrical Equipment.	All Electronic and Electrical equipment will comply with safety provisions of MIL-STD-454.	High Voltage Electricity
Toxic Hazards	American conference of Governmental Industrial Hygienists - Threshold Limit values	Personnel will not be exposed to toxic substances in excess of the values contained in the document.	Toxic materials used as dielectrics, coolants or clearing materials.





APPENDIX B

PERSONNEL RADIATION HAZARDS

APPENDIX B

PERSONNEL RADIATION HAZARDS

1. The US Air Force is required by Executive Order to comply with Department of Labor Standards for Personnel Safety. Part 29, Code of Federal Regulations 1910.97 establishes the permissible exposure level for personnel as a power density of 10 milliwatts per square centimeter. The Air Force in installing the transmitter site, establishing hazard boundaries will comply with official . established National Standards.

2. The 10 milliwatts per square centimeter ( $\text{mW}/\text{cm}^2$ ) permissible exposure level was defined and accepted in 1958. At that time the level was determined to be conservative by a factor of 10 for microwave frequencies, 300 megahertz (cycles per second) and above. Subsequently, research work reported from Communist Block countries indicate much lower levels. As a result, United States standards have been re-evaluated by several groups. After approximately five years of extensive effort, the current US exposure levels have been reaffirmed. For example, the C-95 Panel of the American National Standards Institute, after two years of study, recently confirmed the  $10 \text{ mW}/\text{cm}^2$  exposure level. This panel is composed of Government, industry, environmental and public representatives.

3. The US scientific community, as noted above, is aware of the Russian exposure standard of .01 to .1  $\text{mW}/\text{cm}^2$ . These levels are a factor of 1000 to 100 times lower than the US standard. However, there is very little US research work that indicates the existence of extremely low level effects. Most of the US studies performed with either pulsed or continuous wave (CW) radiation demonstrates that a lower level is not required to insure the safety of personnel. The Air Force research program conducted by the USAF School of Aerospace Medicine, Brooks AFB, Texas has demonstrated that the permissible exposure level can be safely raised to  $50 \text{ mW}/\text{cm}^2$  for the high frequency band 3-30 MHz. This has been done by irradiating animals and insects to much higher power density levels and demonstrating that there are no effects. No effects were noted at power densities 10 times greater or  $500 \text{ mW}/\text{cm}^2$ .

4. Several U.S. researchers have recently visited the USSR to

... several U.S. researchers have recently visited the USSR to familiarize themselves with the current research on the biological effects of non-ionizing radiation. Generally they observed that most studies were conducted at microwave frequencies, exposing rats, mice, and rabbits for 3-6 months at levels 10-1000 times less than the current U.S. standard. The biological measurements employed represented good scientific techniques, however, the exposure facilities construction could result in measurement errors and the concept of absorbed does and power scaling was not considered. Absorbed dose and power scaling are particularly important when using small animals in non-ionizing radiation research if the results are to be meaningful when extrapolated to human exposure. These long-term studies need to be replicated, using accurate exposure and measurement techniques before it can be concluded that the USSR findings are valid. Other visits to Eastern European countries have indicated their lower standards are not enforced. The restricted area around most transmitters would be quite extensive and easily seen if the Eastern European standards were rigorously applied. Recent published data from Poland have indicated no incidence of disorders, functional disturbances, or lenticular opacities in microwave workers with history of various periods of occupational exposure at 0.2 and 6 mW/cm<sup>2</sup>.

5. The CONUS OTH-B Radar System to be installed employs a continuous wave (CW) transmitter while most prior systems had used pulsed modulation. There has been some question as to the difference pulsed or continuous wave modulation would make on the radiation hazard experimental work. In fact there is no difference because the US standards are based on average power. Both pulsed and continuous wave radiation have an average power factor. So basic investigations with pulsed radiation are applicable to a continuous wave case as long as the average power involved is the same.

6. An additional safety factor applies to the installation of a high frequency (HF) transmitter because of the longer wavelengths involved. The majority of the biological hazard research has been done at microwave frequencies, 300 MHz and above, where more of the energy incident upon a body is absorbed. HF is significantly different in wavelength from the peak absorption effects. For example, the wavelengths for several frequencies are:

300 MHz 1 meter

30 MHz 10 meters

3 MHz 100 meters

Some studies show that absorption peaks at about 1000 MHz or 30 centimeters wavelength. Much less energy would be absorbed by the human body at HF.

7. In Summary, the US database used for effects to personnel caused by high level electromagnetic radiation confirms that the 10 mW/cm<sup>2</sup> exposure level standard is conservative and provides adequate protection for those either working or living around a transmitter site with properly defined hazard areas.

APPENDIX C

AMD - 4141. RF RADIATION EFFECT PROGRAM REPORT

## APPENDIX C

### 4.14.1 RF RADIATION EFFECTS

#### PROGRAM REPORT BY AMD

18 JUNE 1974

#### RF BIOEFFECTS RESEARCH ---- FINDINGS

Following is a chronological summary of the bioeffects research tasks and findings. Details of these studies are contained in the publications listed in attachment 1 of this report.

Apr 70	Completed 6 wk study; 12 primates, 10.5 MHz, 200 mw/cm <sup>2</sup> (1 hr) — No effect.
Oct 70	Completed 8 month study; 84 primates; 10.5 MHz - 200 mw/cm <sup>2</sup> (1 hr); 19.3 MHz - 120 mw/cm <sup>2</sup> ; 4 hrs/ day, 14 days; 26.6 MHz - 110 mw/cm <sup>2</sup> (1 hr) — No acute deleterious effects.
Dec 70	Temperature profile studies completed on 24 primates at 10.5, 19.3, and 26.6 MHz exposed to >1500 mw/cm <sup>2</sup> — Adverse temperature rise at 26.6 MHz; extrapolation to man difficult.
Sep 71	Cardiac pacemaker EMI tests completed on 10 implanted animals.
May 72	Cardiac pacemaker EMI tests completed on 11 implanted animals at 10.5, 19.3 and 26.6 MHz — Adverse effect threshold ~50 V/m.
Jul 72	A 1000% increase in the number of lymphocytes able to divide after antigen stimulation was found in primates exposed to 1320 mw/cm <sup>2</sup> at 10.5, 19.3, and 26.6 MHz — Indicates a possible decrease in resistance to viral infections.
Aug 72	Power absorption measurements in dogs and human phantoms — Support 50 mw/cm <sup>2</sup> as a safe exposure level based on acute thermal burden.
Aug 72	Exposure of <u>Tenebrio Molitor</u> (mealworms) exposed to 24 MHz CW for one hour at 1600 mw/cm <sup>2</sup> — Minimal effect.

Aug 72      Weight change study conducted on 262 mice, exposed 18 minutes to  $46 \text{ mw/cm}^2$  at 10.5, 19.3, and 26.6 MHz ---- No adverse effect noted.

Aug 72      Rodents exposed to  $5000 \text{ mw/cm}^2$  of 24 MHz CW radiation for one hour ---- Changes in metabolic turnovers in specific brain areas suggest a small effect on chemical energy requirements needed for brain function.

Apr 73      Theoretical studies substantiate position that compared to higher frequencies little energy is deposited in man exposed in HF band fields and that much of that deposited results from the H-field component.

Apr 73      New techniques developed for measuring rate of turnover of the substances responsible for transmission of neural information ---- HF band exposures up to  $\sim 1200 \text{ mw/cm}^2$  had little effect on any of the neurotransmitters measured to date.

Apr 73      Development of X-ray fluorescence techniques to measure trace metals (Mg, Ca, Fe, Cu, and Zn) occurring in blood plasma and in fractions of liver cells.

Apr 73      Twenty-seven pacemakers were tested in both free-field and simulated implant configurations ---- Adverse effect thresholds remain essentially unchanged and 50 V/m appears a reasonable safe guideline for CONUS OTH-B at present.

Aug 73      Completed studies of the effect of HF band radiation on the central nervous system (CNS) using the rapid brain inactivation technics and the analysis of choline ---- High power densities produced alteration of the acetylcholine content of the medulla that could not be repeated at lower exposures ( $100 \text{ mw/cm}^2$ ).

Dec 73      Spherical models used to study HF band induced fields and power absorption in man ---- Show that for field impedances less than  $1200\pi$ , the magnetic-field-induced absorption predominates. Data still supports the  $10 \text{ mw/cm}^2$  limit as being extremely conservative at HF band, based on thermal burden.

Feb 74      Studies of changes in divalent metal distribution in rat liver after exposure to HF band RF fields ---- Duplicates those changes induced by normal hyperthermia demonstrating the use of divalent metal analysis technics to study RF effects.

Mar 74      Power absorption measurements in 70 kg and 90 kg rectangular liquid filled phantoms and in an <sup>an</sup> ~~an~~ pig ---- Were in good agreement with theoretical predictions from model studies and again confirmed HF band power absorption to be low compared with higher frequencies.

Mar 74      Completed thermographic experiments on 3 species of animals using 19 MHz radiation in the near-field radiation simulator and HF band far-field exposure chambers ---- Results support theoretically predicted differences in power absorption as function of animal size and radiation frequency.

Apr 74      Computer models were constructed and used to determine the effects of combined stress on permissible RF exposure levels. Heat stress index (HSI) values were calculated using recent empirical data on the coefficient of evaporative heat loss and the coefficient of radiation plus convective heat loss, but the bodies' physiological control mechanisms were not considered ---- Results inconclusive, further work is in progress.

May 74      Sixty cardiac pacemakers including all of the marketed "new-generation" devices were tested at 10.5 MHz and 26.6 MHz to field levels of 980 V/m and 780 V/m respectively, using a 1.5 msec pulse width and pulse repetition rates of 4, 10, and 100 pps ---- Adverse effect threshold values remained at 20-50 V/m for the older models while many of the new models were unaffected at the limit of these tests.

May 74      Completed a growth rate experiment using 54 neonatal mice exposed in the near-field radiation simulator in two groups; one group received a single 18-minute exposure of high intensity (47 A/m) 19 MHz H-field radiation; the other group received the same exposure level one hour per day for 23 consecutive days ---- No significant difference was found in growth or weight accumulation between irradiates and controls in either group.

May 71 Completed two experiments to measure the oxygen uptake in 30 adult mice; ten of the mice were placed in a standardized metabolism chamber and exposed in a simulated far-field geometry to 1040 mw/cm<sup>2</sup> of 19 MHz radiation for 20 minutes; another group of 10 mice was exposed to a 5900 V/m E-field at 19 MHz in the near-field radiation simulator ---- No significant difference was noted in the oxygen uptake values between the irradiated animals and controls.

Jun 71 Theoretical studies of power absorption as a function of frequency and size of biological subject ---- Provide scaling factors to extrapolate from animal to man by adding power or changing frequency. Also, the effect of orientation of the biological subject is reported, as well as the E- and H-field contributions to power absorption.

#### PROGRAM STATUS

##### Significant Findings to Date

(1) Using the currently accepted acute thermal burden concept the permissible exposure level for HF band (3-30 MHz) fields could be increased from 10 mw/cm<sup>2</sup> to 50 mw/cm<sup>2</sup>.

(2) At HF band frequencies, the magnetic (H)-field-induced absorption predominates and, therefore, it is important to measure both the E- and H-fields for hazard evaluations.

(3) Energy deposition at HF band frequencies is strongly frequency dependent. Size and orientation of the subject must also be considered. Scaling factors for both frequency and subject size have been developed to extrapolate RF induced biological responses from animal to man.

##### Current Objectives

(1) To continue studies of neurotransmitter turnover rates, changes in divalent metal distribution, the effect of combined environmental stresses, and other possible indicators of man's state of health after exposure to simulated CONUS OTH-B RF Fields.

(2) To extend the power absorption measurements over a wider frequency range.

(5) To continue to pursue all relevant questions of this system's effect on man, e.g., long term effects, thermal vs non-thermal effects, 50 mw/cm<sup>2</sup> vs 10 or 1 mw/cm<sup>2</sup>, pacemaker EMI, etc., etc.

IMPACT - Importance of CONUS OTH-B RF Effects Program

During the past several years, we have experienced considerable pressure by congressional actions, Government regulations, and numerous organizations concerning the effect and control of non-ionizing electromagnetic radiation. Examples are: (1) the passage of Public Law 90-602, the Radiation Control for Health and Safety Act of 1968, (2) the passage of Public Law 91-190, the National Environmental Policy Act, (3) Presidential Executive Order 11514, (4) API 1-74, Protection and Enhancement of Environmental Quality, (5) passage of Public Law 91-596, the Occupational Safety and Health Act of 1970, (6) Presidential Executive Order 11614, (7) recent stand by the Consumer Union that microwave ovens are hazardous in spite of the new lower emission limits, (8) the recent proposal by OSHA that the 50 mw/cm<sup>2</sup> limit be lowered to 1 mw/cm<sup>2</sup>, and the Office of Telecommunication Policy release in the 3 June 74 issue of Newsweek magazine stating, "Man may soon enter an era of energy pollution of the environment comparable, in public health and ecologic implications, to the chemical pollution of today."

It is felt that the ongoing CONUS OTH-B RF effects program is the best possible means to maintain the necessary scientific integrity concerning this aspect of the CONUS OTH-B system development and operation.

RADIATION EFFECTS PROGRAM REPORT

ATTACHMENT 1

REPORTS/PAPERS

1. Jul 70 A Radiofrequency Radiation Exposure Apparatus, SAM-TR-70-43
2. Aug 70 RF Radiation Effects Project - Status Report to ESD
3. Dec 70 RF Radiation Effects Project - Final Report Summary to ESD
4. Jan 71 Hematological and Biochemical Results from RF Exposures at 10.5, 19.3, and 26.6 MHz
5. Jan 71 Modified Exposure System for HF Band RF Radiation Studies
6. Feb 71 HF Exposure Chamber for Radiobiological Research, NRL Report 2218
7. Feb 71 Detection and Evaluation of Radiofrequency Electromagnetic Radiation-Induced Biological Damage in Macaca Mulatta, SWRI Report 05-2808-01
8. Mar 71 NBS Field Measurements, Probe Design and Use
9. Apr 71 RF Differential Power Measurement System for the Brooks AFB Electromagnetic Radiation Hazards Experiments, NBS Report 9795
10. Jul 71 Status Report-RF Testing of Cardiac Pacemakers
11. Jun 71 Dielectric Effects in a TEM-Mode RF Exposure Chamber
12. Sep 71 RF Radiation Effects Progress Report - Radiosensitivity of Cardiac Pacemakers
13. May 72 Final Report - HF Band Radiosensitivity of Cardiac Pacemakers
14. Jun 72 RF Measurements of Power Absorption Measurements in HF Fields

15. Jul 72 Cytologic Aspect of RF Radiation in the Monkey, Aerospace Medicine, Vol 43, Nr. 7

16. Aug 72 Animal Progress Report - OTH Radar RF Radiation Effects Project

17. Dec 72 Observations on HF Band Power Absorption by Primates

18. Apr 73 Progress Report - 414L CONUS OTHB Radar RF Radiation Effects Program

19. Aug 73 Development and Construction of an Electromagnetic Near-Field Synthesizer for the HF Band

20. Aug 73 A Theoretical Estimation of Tissue Anisotropy Effects on Electromagnetic Power Deposition - 0.9 to 100 MHz

21. Aug 73 X-Ray Fluorometer and Solid-State Detector Calibration for Biologic Specimen Analysis

22. Dec 73 Electromagnetic Power Deposition in Man Exposed to HF Fields and the Associated Thermal and Physiologic Consequences, SAM-TR-73-13

23. Jan 74 Neurochemical Alterations in Specific Brain Areas in Rodents Exposed to High Intensity Fields.

24. Feb 74 A Comparison of Thermal and RF Induced Changes in the Rat

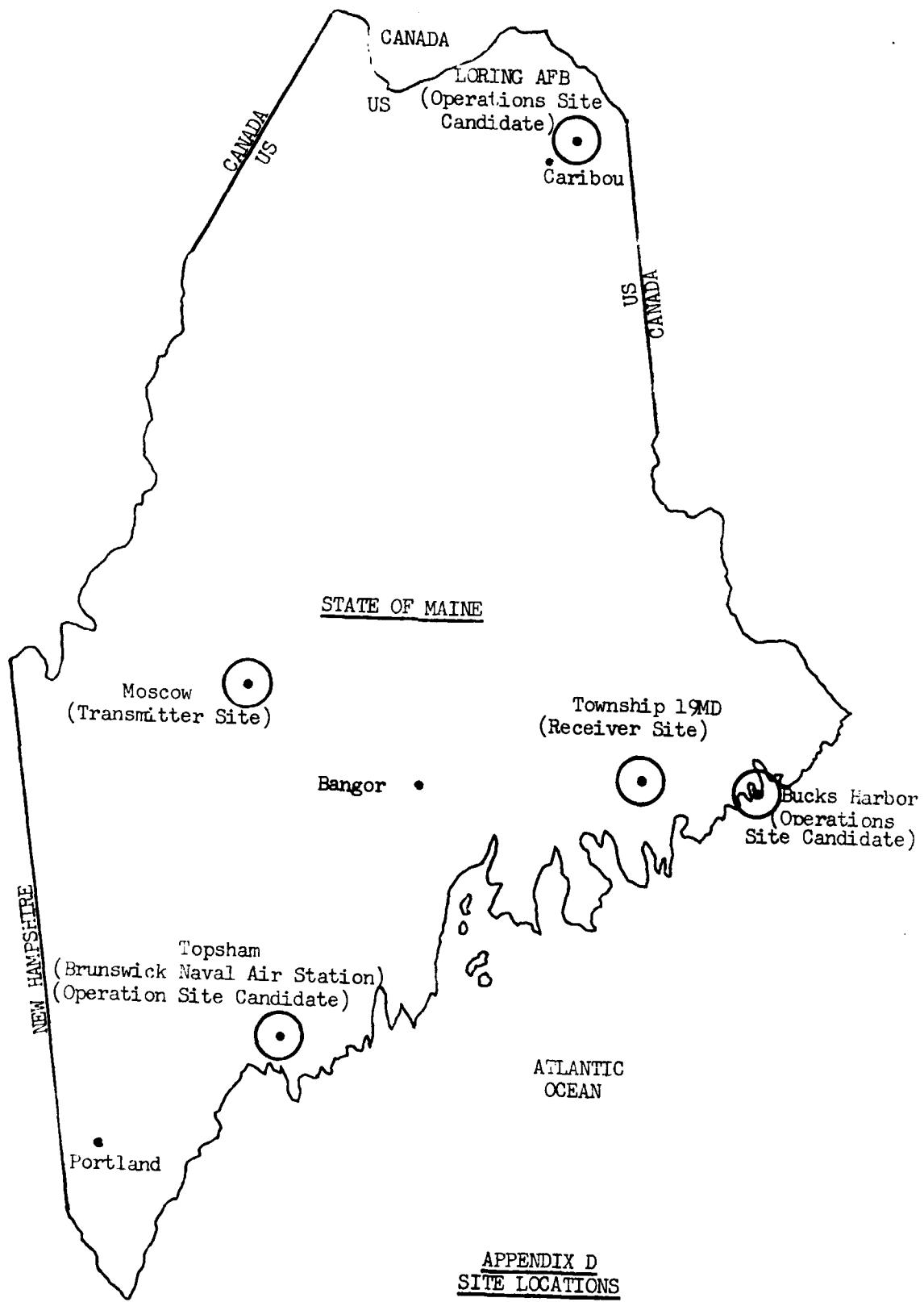
25. Feb 74 Measurements of Power Absorption by Human Phantoms Immersed in Radiofrequency Fields

26. May 74 Interaction of Electromagnetic Fields with Man and Experimental Animals

27. May 74 Development and Construction of an Electromagnetic Near-Field Synthesizer, NBS Tech Note 652

APPENDIX D

SITE LOCATIONS



APPENDIX D  
SITE LOCATIONS

APPENDIX E

PROPOSED  
RECEIVER AND TRANSMITTER SITES

MAP 1 - Technically Preferred Receiver Site

MAP 2 - Receiver Site - Option 1

MAP 3 - Receiver Site - Option 2

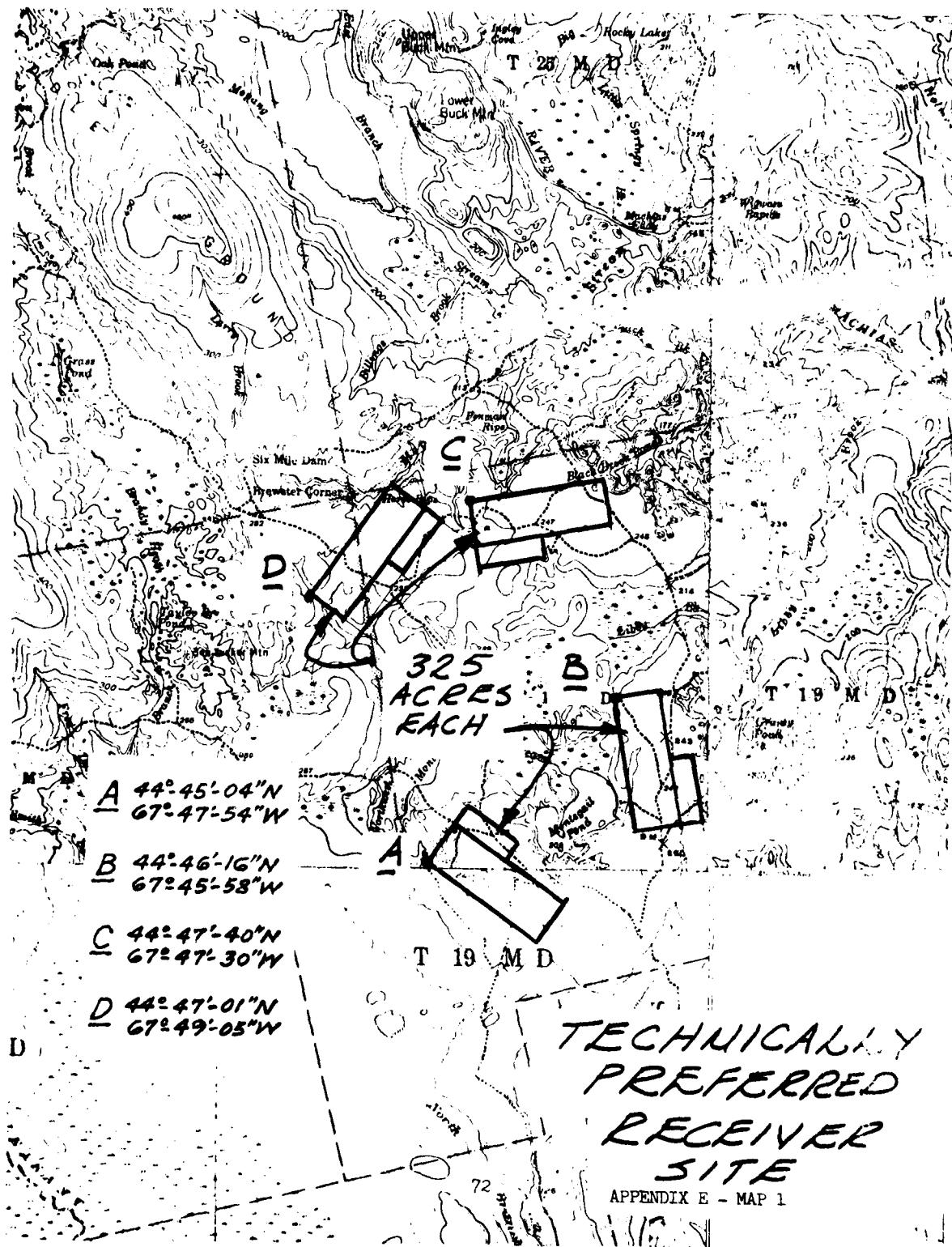
TABLE 1 - Blueberry Acreage Affected

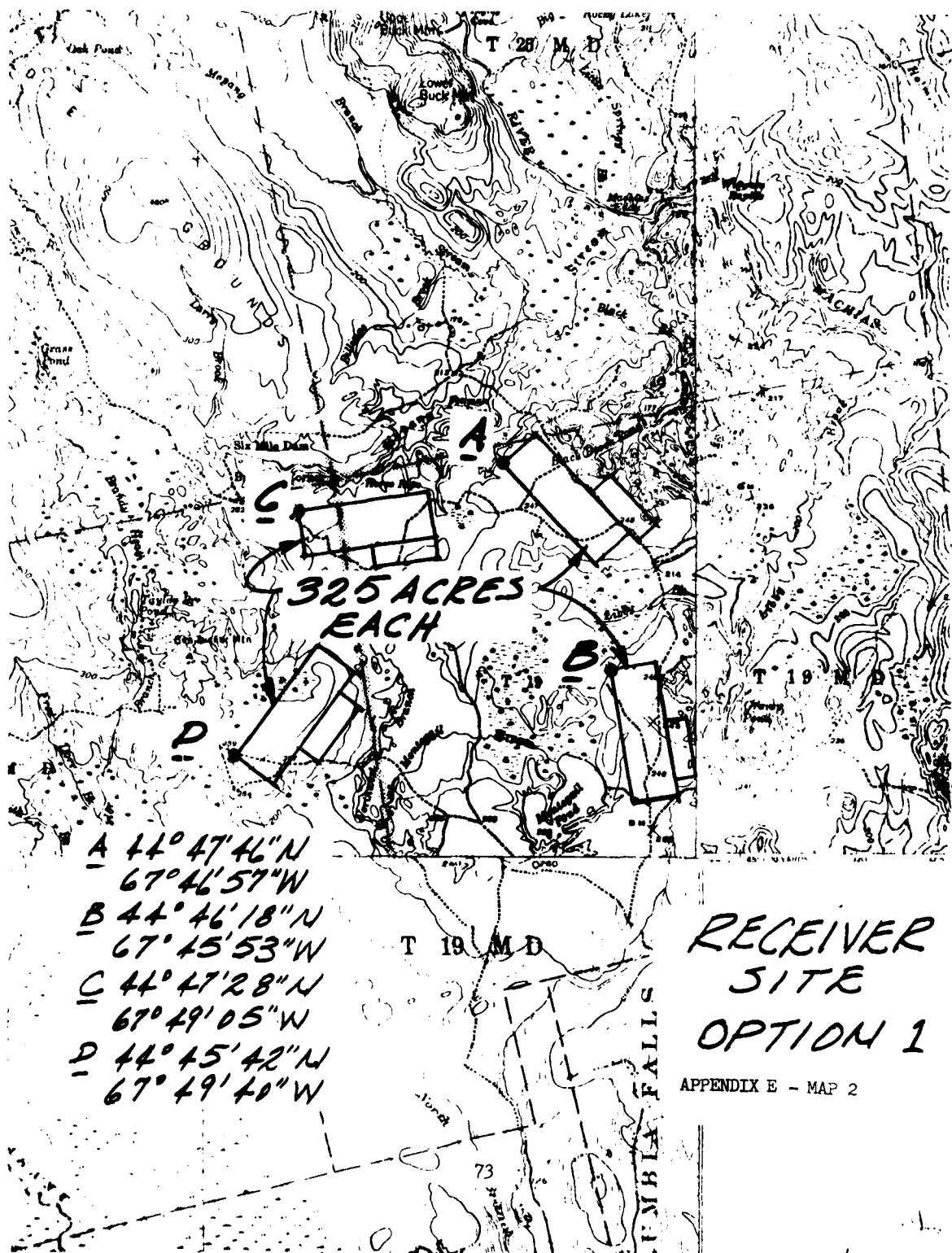
MAP 4 - Transmitter Site

Rating Scale for Evaluating Candidate Sites

TABLE 2 - Receiver Site Criteria Rating

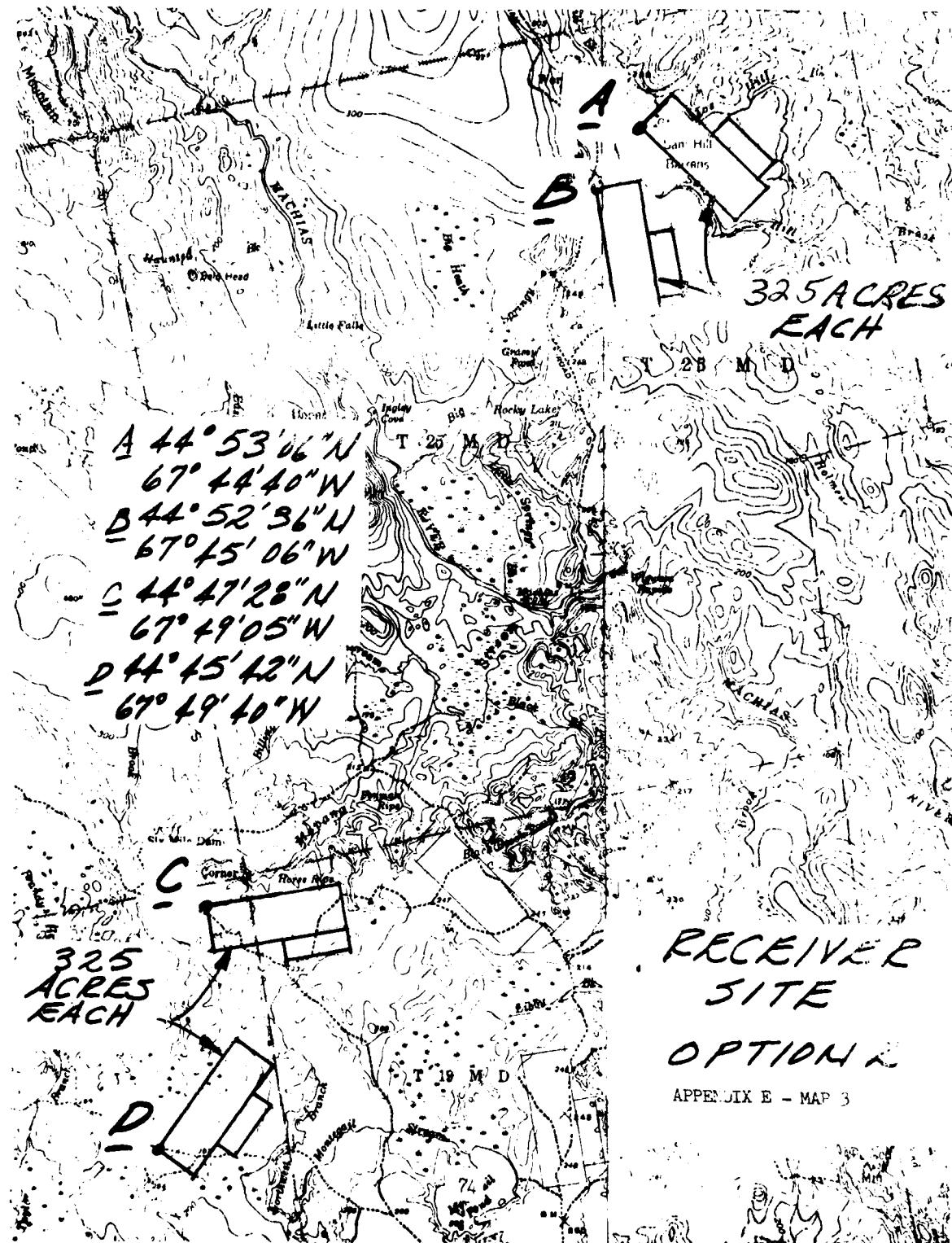
TABLE 3 - Transmitter Site Criteria Rating





RECEIVER  
SITE  
OPTION 1

**APPENDIX E - MAP 2**



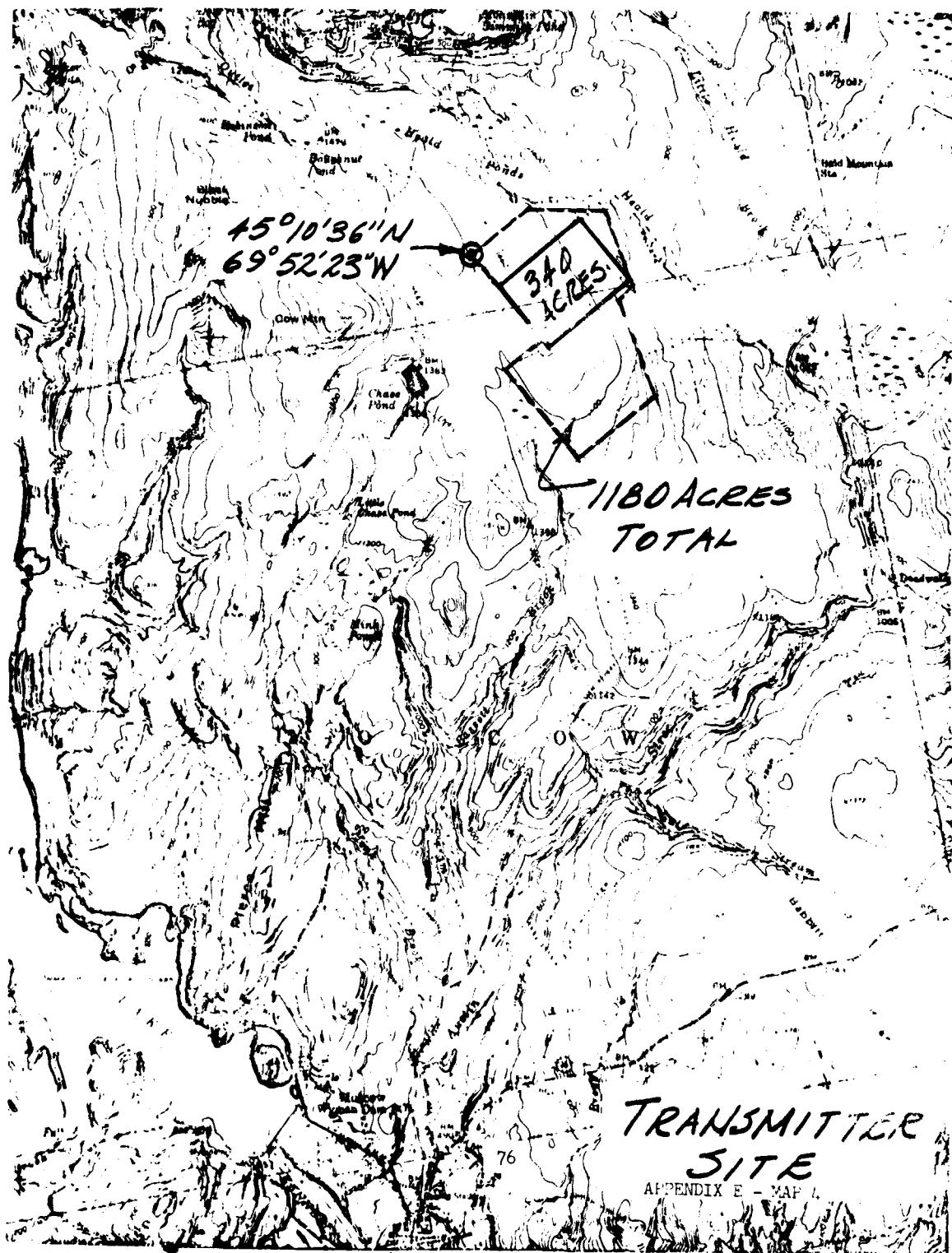
APPENDIX E - TABLE 1

BLUEBERRY ACREAGE AFFECTED

<u>PREFERRED</u>	<u>PROTOTYPE</u>	<u>OPERATIONAL</u>
PLOT A	325 /1	325 /1
PLOT B	N/A	325 /3
PLOT C	N/A	325 /2
PLOT D	<u>N/A</u>	<u>0</u>
TOTAL	325	975
<u>OPTION 1</u>	<u>PROTOTYPE</u>	<u>OPERATIONAL</u>
PLOT A	325 /2	325 /2
PLOT B	N/A	325 /3
PLOT C	N/A	0
PLOT D	<u>N/A</u>	<u>0</u>
TOTAL	325	650
<u>OPTION 2</u>	<u>PROTOTYPE</u>	<u>OPERATIONAL</u>
PLOT A	0	0
PLOT B	0	0
PLOT C	0	0
PLOT D	<u>0</u>	<u>0</u>
TOTAL	0	0

According to Professor Amr Ismail, Blueberry Specialist with the University of Maine, the blueberry yield of affected acreage is as noted:

/1 Well above average.      /2 Above average.      /3 Average.



APPENDIX E

RATING SCALE FOR EVALUATING CANDIDATE SITES

Number 1 - is assigned if the site satisfies the siting requirements.

Number 2 - is assigned if the use of the site would moderately restrict the operation of the system; or disrupt existing population or facilities; or increase the system acquisition/operation costs.

Number 3 - is assigned if the use of the site would significantly restrict the operation; or disrupt population or facilities; or increase the cost of acquisition/operation of the system.

Number 4 - is assigned if restrictions on operation, or disruption of population or cost increase are so serious as to make the site marginally acceptable.

APPENDIX E  
RECEIVER SITE CRITERIA RATING

Criteria	JOINT-PREFERENCE REQUIREMENTS				SITE REQUIREMENTS			SUPPORT REQUIREMENTS	
	Site	Technically Preferred	Industry Population	Mil, Comm, RV, Radio	OTH-E Transmit	Terrain Size	Vertical Obstruction	Expansion	Comm Pwr Support
Montegail Pond 19MD	1		1	1	1	1	1	1	2
	Option 1		1	1	1	2	1	1	3
Sam Hill Barrens	1		1	1	2	1	1	2	2
	Option 2							4	3
Atkinson Mills	2		3	4	4	4	4	3	4
									4
Burnham	1		1	4	4	1	4	1	4
									4
Liberty	1		1	4	4	1	4	1	4
									4
Caribou	2		1	1	4	1	1	1	1
									1

RATING:

- 1 - Satisfies all siting requirements
- 2 - Imposes no significant restriction or cost increase
- 3 - Imposes significant restriction, disruption or cost increase
- 4 - Only marginally acceptable due to serious restriction, disruption or cost increase

APPENDIX E

TRANSIENT SITE CRITERIA RATING

CRITERIA	TRANSIENT SITE CRITERIA				SITE REQUIREMENTS				SUPPLY REQUIREMENTS	
	Airways	Population Industrial Centers	Code 4 Military Receivers	CH-2 Receiver	Terrain & Size (Acres)	Expansion	Vertical Obstruction	Exist. Mill Support	Exist. Com. Elec Power	
Moscow	1	1	1	1	1	1	1	1	1	1
Forks	2	4	1	1	1	1	4	1	4	1
Brownville	4	2	2	4	3	4	3	4	4	3
Atkinson Mills	4	2	4	4	2	4	1	1	3	3
Caribou	4	4	4	2	4	4	1	1	1	2

RATING:

- 1 - Satisfies all siting requirements
- 2 - Imposes moderate restriction, disruption or cost increase
- 3 - Imposes significant restriction, disruption or cost increase
- 4 - Only marginally acceptable due to serious restriction, disruption or cost increase

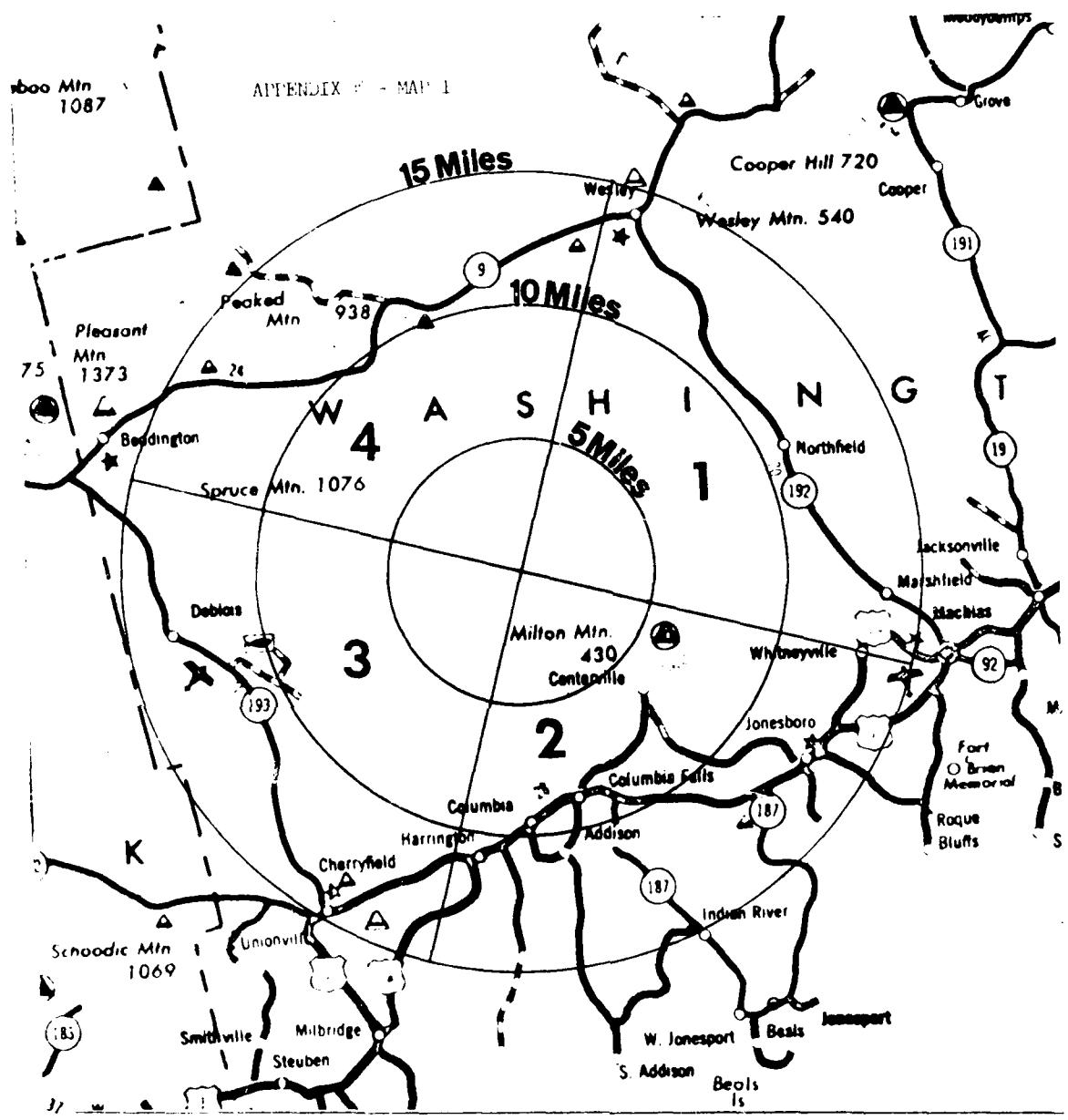
APPENDIX F

POPULATION DISTRIBUTION

MAP 1 - Receiver Site

MAP 2 - Transmitter Site

APPENDIX C - MAP 1



POPULATION DISTRIBUTION (RECEIVER SITE)

SECTOR	1	2	3	4	TOTAL
0-5	0	0	0	0	0
5-10	0	548	0	0	548
10-15	169	2402	791	0	3662

AD-A104 331

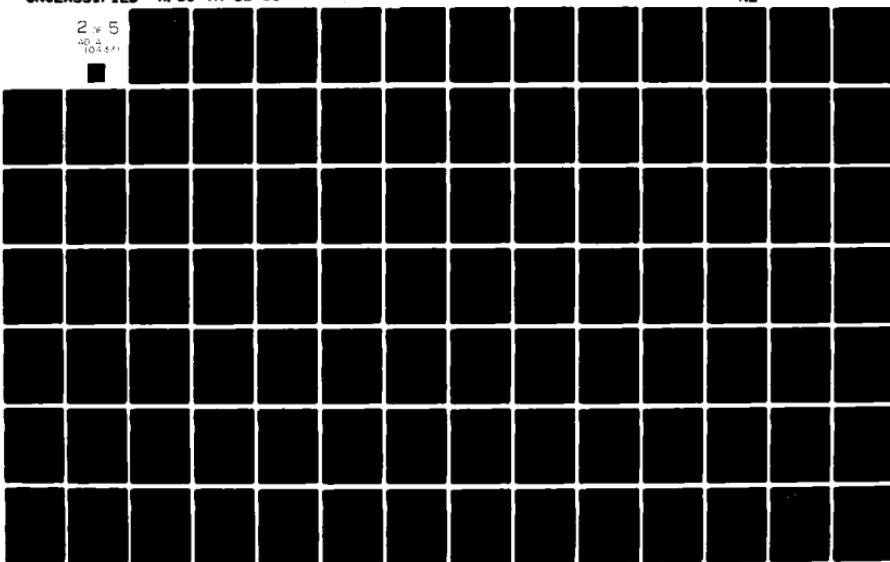
AIR FORCE SYSTEMS COMMAND WASHINGTON DC  
FINAL ENVIRONMENTAL STATEMENT. CONTINENTAL UNITED STATES OVER-T-ETC(U)  
JAN 75

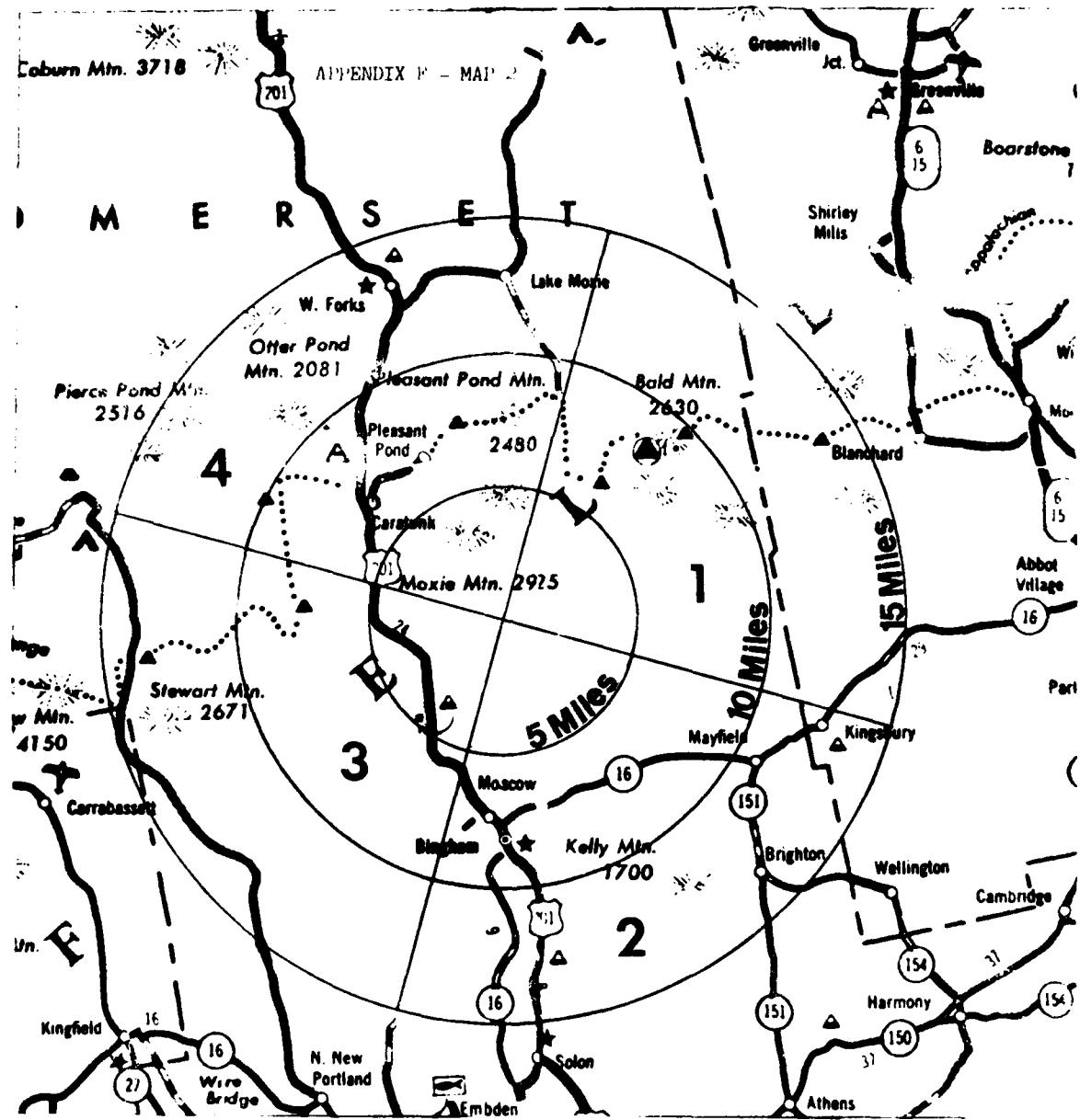
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POPULATION DISTRIBUTION (TRANSMITTER SITE)

SECTOR	1	2	3	4	TOTAL
0-5	0	0	0	0	0
5-10	0	1860	0	96	1956
10-15	0	65	0	119	184

APPENDIX G

ESTIMATED SITE PERSONNEL & PAYROLL

Table 1 - Receiver Site

Table 2 - Transmitter Site

Table 3 - Operations Site

APPENDIX 3 - TABLE 2

ESTIMATED RECEIVER SITE PERSONNEL & PAYROLL

<u>Prototype</u>	<u>Personnel</u>			<u>\$ (000)*</u>	<u>Total</u>
	<u>Local</u>	<u>Other</u>	<u>Total</u>		
Construction	20	5	25		110
	60	20	80	660	50
Installation	35	45	80		290
				370	950
Test	25	75	100		1210
				1390	
<u>Operational</u>					
Construction	80	25	105		800
	Per Year			340	460
Installation	40	65	105		1000
	Per Year			130	1260
Operation	20	20	40		300
	Per Year			130	

APPENDIX 3 - TABLE 2

ESTIMATED TRANSMITTER SITE PERSONNEL & PAYROLL

<u>Prototype</u>	<u>Personnel</u>			\$ (000)*	<u>Total</u>
	<u>Local</u>	<u>Other</u>	<u>Total</u>		
Construction 1975	22	5	27	120	50
1976	40	15	55	420	260
Installation 1977	20	35	55	170	520
Test 1978	20	50	70	150	800
					950
<u>Operational</u>					
Construction Per Year	90	30	120	900	550
Installation Per Year	40	65	105	340	1000
Operation Per Year	20	20	40	130	430

APPENDIX G - TABLE 3

ESTIMATED OPERATIONS SITE PERSONNEL & PAYROLL

<u>Prototype</u>	<u>Personnel</u>			<u>\$ (000)*</u>	<u>Total</u>
	<u>Local</u>	<u>Other</u>	<u>Total</u>		
<u>Combined with Receiver site</u>					
<u>Operational</u>					
Construction	Per Year	35	10	45	350
Installation	Per Year	40	65	105	340
Operation	Per Year	10	100	110	70
					1630
					1700

APPENDIX H

INFORMAL PUBLIC HEARING

CONUS OVER-THE-HORIZON RADAR SYSTEM

MOSCOW, MAINE

11 SEPTEMBER 1974

OFFICIAL TRANSCRIPT

EXHIBITS

SUPPLEMENTARY RESPONSES

The supplementary responses are addressed to comments and questions specifically identified in the official transcript and exhibits. The identification is a reference number to the left of the particular comments or questions.

TRANSCRIPT

INFORMAL PUBLIC HEARING

OVER-THE-HORIZON RADAR SYSTEM

MOSCOW, MAINE

11 SEPTEMBER 1974

PRESIDING OFFICER

Major James L. Schmidt

42d Combat Support Group  
Loring AFB, Maine

REPORTER

A1C Kerry Hughes

42d Combat Support Group  
Loring AFB, Maine

AIR FORCE REPRESENTATIVES

Lieutenant Colonel Donald J. Stukel

OTH Program Director  
USAF Systems Command  
L.G. Hanscom Fld, Mass

Lieutenant Colonel William A. Hobgood

Deputy OTH Program Director  
USAF Systems Command  
L.G. Hanscom Fld, Mass

Mr. James Mansfield

Civil Engineer  
USAF Systems Command  
L.G. Hanscom Fld, Mass

Mr. Carl Brown

Civilian  
MITRE Corporation

Lieutenant Colonel John Bayer

Environmental Protection Group  
CSAF/PREV  
Wash, D.C.

TRANSCRIPT OF PUBLIC HEARING  
ON THE  
OVER-THE-HORIZON RADAR SYSTEM  
HELD ON

11 SEPTEMBER 1974 AT THE MOSCOW ELEMENTARY SCHOOL, MOSCOW, MAINE

The hearing was called to order by Major James L. Schmidt at 1930 hours on 11 September 1974.

Major Schmidt:

Ladies and Gentlemen, if I may have your attention, please. Good evening. For the record, I am Major James Schmidt. I am the Staff Judge Advocate of Loring Air Force Base, Maine. I have been directed by the Office of the Secretary of the Air Force to conduct an informal public hearing on the Revised Draft Environmental Impact Statement filed by the Air Force on the proposed construction of the Over-the-Horizon Radar System in the State of Maine.

It is proposed that the transmitter site be located in Moscow/Caratunk, Somerset County, Maine, and that the receiver site be located in Township 19MD, Washington County, Maine. The Air Force filed and distributed this Statement for comments on July 30, 1974. The purpose of the Draft, under the Counsel on Environmental Quality guidelines, is to set out the agencies' analysis of the Environmental Impact, the proposed action and the alternatives to it.

Forty-five days, until September 23, 1974, are allowed for written comments. Written comments should be mailed to Dr. Billy E. Welch, W-E-L-C-H, Special Assistant for Environmental Quality, Office of the Secretary of the Air Force, Washington, D.C. 20330. If any of you need this address, during the recess I would be very happy to furnish it to you.

In addition, in view of the controversy over the environmental impact of the proposed action, the Air Force has scheduled these hearings during the comment period. After the Air Force has analyzed the comments and the transcripts of the public hearings, it will prepare a Final Environmental Impact Statement that takes into account and is responsive to the statements made. The final statement will be used in the process of reaching a final decision.

My role in this proceeding is simply to conduct the hearing. I will not make a decision, nor will I offer a recommendation on the proposal. Tonight's proceedings will be recorded by the gentleman on my left, who is a fully qualified court reporter. We also have back-up tape recording.

The purpose of the hearing this evening is to gain an understanding of the feelings and opinions, in this area, concerning the environmental impact of the proposed location. It is an informal hearing. Now, this does not mean that we sit around and chat, as pleasant as this would be from my point of view. There are just too many people to do this and

the court reporter would find it extremely difficult to record the statements and questions and comments that are made. Informal is a lawyer's term for a nonadversary proceeding. This means a hearing with no cross-examination to prove the truth or falsity of statements. Rather, we want to hear from you individuals in this area and what you feel about the environmental impact of the proposed action.

The ground rules for the informal hearing are quite simple. The hearings will be opened by a representative of the United States Air Force Systems Command, who will give a short description of the project and its environmental impact as seen by the Air Force. Immediately afterwards, there will be an opportunity for clarifying questions from the floor. This is to assure that everyone is clear on what the Air Force proposes to do.

I cannot allow argumentative questions, leading questions, statements disguised as questions or other forms of cross-examination. They are entirely proper in a court of law, but are not in an informal hearing. Therefore, please feel free to ask questions, limit them to clarifying ones about the presentation. If you have comments to make, the time to make them is during your own presentation. To ask a question, I would ask that you please stand and wait for me to recognize you, and, when asking a question, it would be helpful for you to give your name and address for the record, so that it can be recorded by the court reporter.

After the questions to the Air Force, we will take the speakers in the order in which they have signed up. You have the opportunity, this evening, to sign up at the door. We have given each of you an attendance slip and we would like for you to fill them out. And please feel free to include any comments you wish in the provided space, or on the back.

Speakers who represent groups may take up to 30 minutes for their remarks. Individual speakers may take 10 minutes each. After this, we will have a recess, after the question and answer period, and at that time I will pick up any slips from the individuals who have signed up to speak tonight. You have until that time to sign up if you so desire.

Please note that you do not need a prepared statement. Feel free to speak off the cuff if you have anything you would like to be included in the record. In addition, any statement made on the place provided on the attendance sheets, will be included in the record and attached to it. When you come up to speak, please state your name and address, whether or not you are representing a group or yourself, and if you are representing a group, please specify the name of the group. If you have a written statement or other material you wish to have included in the record, please present it to me and I will mark it appropriately and give it to the reporter for inclusion in the record.

Are there any questions on the rules of the hearing? If there are no questions, the first speaker will be Lieutenant Colonel William A. Hobgood, of the Air Force Systems Command. Colonel Hobgood?

Lt Col Hobgood:

Well, you've already stolen my first words. I'm Lieutenant Colonel Bill Hobgood, Deputy Program Director for the CONUS or Continental United States, Over-the-Horizon Backscatter Radar Program Office. I'll be giving you a brief overview of the program to help better your basis for understanding. To start with, I'd like to give you a very slight insight into how Over-the-Horizon Radar works.

Conventional radars operate at frequencies high in the millions of cycles, and Over-the-Horizon Radar operates at lower frequencies known as HF or High Frequencies, in the band that frequencies essentially 5 to 30 MHz. Back to conventional radars again, they are limited by line of sight, that is, here we have the curvature of the earth depicted with an aircraft approaching a radar station, but at the moment he's hidden from view, at least line of sight view, in a straight line, by the fact that he is over the horizon.

Should you use the conventional microwave or thousand of MHz frequencies technique for your radar, you could not see over the horizon, instead, you can only point or transmit at a straight line and these frequencies would go right through the ionized layer surrounding the earth, the ionosphere. The HF frequencies, again about 5 to 30 MHz in frequency range, if aimed at the ionosphere, do not penetrate but instead are refracted or bent or bounced or reflected, however you choose to look at it, back down toward the earth's surface and have the capability of bouncing off of a target, whether it is a plane, arriving or departing. Some of the energy would be bounced or back-scattered back to the ionosphere, again bouncing back down to your receiver site and thus projecting an aircraft over the horizon.

Now, presently, the use of the conventional detection radars, there again operate in the thousands of MHz, these radars are limited to a couple hundred miles in range, which would give a warning of an approaching aircraft depending on its speed in a matter....you have warning in a matter of minutes of some approaching our shores. Using an Over-the-Horizon Radar, and being able to detect way beyond the Optical horizon, it's more like an hour, hour and a half to two hours, we talk in terms of hours, the fact of improvement is very large.

O.K. The Over-the-Horizon Radar technique is not new, it's been experimented with since the 50's and during all of this experimentation, I think it's been proved and accepted by most Over-the-Horizon Radar....the Over-the-Horizon Radar community, let's say, that this technique could indeed be employed with very little technical risk, by building such radar to detect aircraft in those lower latitudes, or lower geomagnetic latitudes that keep the radar away from the auroral oval, essentially around the polar cap. This is due to the fact that in this region away from the auroral oval, the ionosphere, the sphere in the center of which essentially the earth sits, acts nice, it's well behaved, it's predictable, thus you always know how high this reflecting surface is. You know a lot about these latitudes. As you get nearer to...go further North though, and approach the auroral oval, the ionosphere is not so well behaved, at times it's very unpredictable. As a result, you don't know exactly where you are bouncing off of.

We need more information on that and thus, before attempting to build an operational Over-the-Horizon Radar for the purpose of detecting a potentially hostile aircraft approaching the Continent of the United States...before going on the full venture, it's been determined that we should have a prototype radar first, build it, run it, test it for a year, and this done in the region of the auroral, outside looking into the auroral, to determine exactly what are the risks involved technically. Can we really detect aircraft with a great degree of predictability and accuracy? I feel we can, but before launching it in full scale operation, we need to find out exactly how well such a system will work. Therefore, we have been directed to launch on this effort in three phases.

The first phase being build a prototype over-the-horizon Radar, test it for a year and should the results of these tests prove that an operational system is practicable and feasible, then we would launch into Phases II, and III of the program, wherein we would build a fully operational radar on the eastern shores of the Continental United States in the State of Maine and a second one Phase III out in the State of Washington, to look out over the Pacific Ocean.

I'll need to orient you a little bit on this next slide. Bangor here, Bingham, Moscow and out in the barrens of Township 19MD, over in here. O.K., now, another thing about this radar, to regress for a moment, the technique to be employed is called FMCW (Frequency Modulation Continuous Wave). By using this technique, the requirement exists that the transmitter site and the receiver site be separated by approximately 100 to 125 miles. They cannot be located together on the same site.

So, first, in siting the transmitter site it required that it be in a relatively remote area, so that it would interfere the least possible with any other communications system. And this led us, after numerous surveys, to this site near Moscow. The receiver site, as I said, must be located 100 to 125 miles away; in addition, the types of antennas to be employed require large expanses of relatively flat terrain. This led us eventually to Township 19MD, which is the proposed or preferred location for the receiver site.

Now, as I have already indicated, first Phase I will be implemented and that is build a prototype radar, well for that we don't have the total land requirements. If this is successful, the follow-on venture, Phase II and III, building an operational site....well, Phase II really, is to expand in the same area to the land requirements for the fully operational transmitter site. In this case then, for the prototype, this shaded area represents approximately 340 acres that would be required for the prototype transmitter site, this being Wyman Lake, here, and Moscow, Bingham and the site location. The shaded area, again, is the approximately 340 acres that would be required for the prototype transmitter and the rest of the outline here, the additional 840 acres, for a total of 1180 acres for the operational transmitter site. These other dashed lines are logging roads that are unfamiliar.

Well, that's all I'm going to say at this moment about the project itself, and I'd like to get a little bit into the Environmental Impact Statement which is a document we are required to prepare, which addresses the expected impact on the environment in the location of the project to be constructed.

The program office prepares the document, it goes up through channels, comes out of the Secretary of the Air Force's offices as Major Schmidt has already indicated and goes out to the public for a 45 day period of comment. During this 45 days, if it seems appropriate to do so, informal public hearings are held to get the public's comments on record, and this is what we are doing tonight, of course.

After these comments have been gained, a Final Environmental Statement will be constructed incorporating, being revised as required, and again sent out, this time for a 30 day period of comment. Only after this Environmental Impact Statement has been finalized and the issue settled, can we go to Congress and request permission to buy land. Until that time comes, we cannot buy the land required for the site.

The Environmental Impact Statement itself, talks somewhat about the project, but the words I've added tonight are intended to expand upon that and give you a little better insight as to what this CONUS OTH-E Radar System is. And then it talks to various impacts it would have on the environment, some of these listed here:

Radio Frequency Energy. This would be the possibility of harmful effects to human beings or other communications systems. This has been addressed in the statement in that, those hazard or harmful areas extending out and including the areas that would be harmful to a person wearing a heart pacemaker, will be totally fenced in and all areas to which or in which anyone could suffer any harmful effects from the radiated energy will be totally enclosed.

As far as other communications systems...for communications systems outside the band that is being used for the radar, that is, the 30 MHz, there is a possibility that there can be interference in areas within a 3 mile radius, in the main beam, in an Easterly direction from the site itself. For frequencies that are in the band, that is, frequencies of communications systems operating in the 5 to 30 MHz, we have the capability to put a filter in our system that prevents it from transmitting on that particular frequency.

Air Pollution. The prototype radar system will not have, or will not build, power plants, the power will all be commercial power. However, the follow-on operational system, Phase II, will have constructed at the transmitter and receiver site each, power plants to provide back-up power should commercial power fail. And, of course, since these are diesel generators in all likelihood, and there are exhaust fumes, there is the potential for polluting the air, and in this case, the appropriate mufflers will be used on the exhaust system and the appropriate filters to keep from polluting the air itself.

Foliage and Soil. Talking only about the transmitter site for the moment, about 70 acres of the 340 acres, that's depending on intended design, but right now it would appear that about 70 acres will be required to be cleared. Additional 70 acres will probably require selective topping of trees out in the direction of radiation. Where areas are cleared, soil stabilization practices will be adhered to to prevent erosion.

Water Pollution. I'll just say we are required and will adhere to the State and local regulations that govern the prevention of water pollution. In this case, water that is used to cool equipment, wherever they are returned to, will meet all State and local requirements.

This brings us to the Socio-Economics, specifically the economic impact. At this point I'm going to turn the floor over to Colonel Don Stukel, who is the Assistant Program Director, he's what you call the top dog on this program, and he's going to talk a little more concerning the economic impact.

Col Stukel:

I'll make it very, very brief. The informal sessions that we've had with various citizens groups within the State of Maine, one of the questions that continually comes up is, "What is going to be the economic impact of what you are proposing to do?" So we've tried to assess this. There are several ways we could assess it. The most direct way is to look at it in terms of payrolls. This is the approach we have taken. To do this we feel most accurate.

What we have here, is for the transmitter site, I will show you similar slides for the receiver and the operation site. We've broken it out into various phases. The overall phases being the prototype system, Phase I and then the operational. Within that, the kind of subphase construction, installation and test, and we put the years on.

In 1975, the activity will essentially be in the second half of the year. That kind of accounts for why the figures are relatively low, not starting until late next spring. Then we've broken it out into the number of personnel. This is our estimate of the people who will most likely come in from the outside. Based on the kind of skills that will be required.

These people, some of them will come in for a long period of time, some of them for a shorter period of time. Some particular skills are required during the testing and different skills in each of the other phases. There may be some people in this other category that are here for several phases, but typically one might expect the kinds of people would change with the phases.

Then we have taken this number of people, this being the total (pointing to screen), and put what we think are the wage rates on them. This is expressed in thousands of dollars. So we're saying that in 1975, we anticipate, projecting ahead, that there will be 22 local people hired. Their total salaries will be one hundred and twenty thousand. During that same time there will be people that we classify as outsiders, others, people who don't normally live in the local area, their salary is fifty thousand. For a total of one hundred and seventy thousand being the payroll expended at the transmitter site. And we've just done this for each of these.

Down here in the construction, operational phase, we've just put these on a per year basis. For example, the operational phase, this would be the continuing phase after the system was installed, and this to go on for ten to fifteen years. So over the long pull, this is the kind of payroll we have projected after we got into the operational phase. So you can see that it fluctuates with the amount of activity going on. The peak being when we are constructing the other three segments of the antenna, we're talking a payroll, a total payroll being spent here of about 1.5 million dollars, per year.

Now, we have not attempted to take into account other money that will be spent in the area, in the sense of, there's construction going on, we're building a building, the material for the building would under normal circumstances, be purchased locally. And we have not tried to perform those kinds of calculations, to determine what money the prime contractor who has the responsibility for building it will most likely spend in the area. So we have just assessed this in terms of the payroll.

So this gives you a feeling for the kind of direct input that we're going to have. I think one can quite easily anticipate that if we've got to clear land, the people clearing the land will be local people, and if you've got to buy concrete, it would be bought locally. Numerous of these kinds of things.

Let's look at the next slide, please, which will give an idea at the receiver site. Which was done the same way, broken out into the same typical phases, and you can get a feel for the level of the payrolls in

that area. There's not that much difference, you see the high point here is during the installation phase, figures are a little bit lower, actually, in this period than they are at the transmitter site. This gives you a feel for the type of payroll that we anticipate being spent here.

The next slide will show it for the operational site. Same kind of thing. During the prototype phase, the operation site is co-located with the receiver site, so there are no figures for the operational site there. When we get to the operation site for the operational phase, you can see the kinds of figures we are talking. Essentially about 1.7 million per year for that site, that site would have the largest number of people, we're talking approximately 110 people, at the operation site.

This, I think, gives you a feeling for what we are . . . i . . . I want you to remember that we are projecting ahead, until we have firm contracted proposals at hand, until we have actually selected a contractor, this is a projection. I want you to keep that in mind. Based on our previous experiences on other efforts similar to this, this is our projected....what we anticipate the payrolls to be.

I want to make one announcement before I sit down. This was passed to me by our Press representative. If there is anyone here from the Press who didn't get the Press background statement that we're handing out, I would appreciate it if you would get in contact with me afterward or at the break. This is essentially all we have, we'll turn it back over to you.

Maj Schmidt: Thank you, gentlemen. Are there any questions from the floor? Is there anyone who wishes to be recognized for a question? Yes, sir. Would you stand and state your name, please?

Mr. Hunt: Q. I'm John Hunt from the Fish and Game Department, State Fish and Game Department. I'm wondering if anyone can tell me what the air temperature in degrees fahrenheit, that will be generated at different distances from the transmitter?

Maj Schmidt: Thank you, Mr. Hunt. Gentlemen, is there anyone who can answer this question?

Col Stukel: Carl?

Mr. Brown: A. I'm Carl Brown from Mitre Corporation, we provide technical support for the Air Force. I would anticipate there would be no effect on air temperatures.

Maj Schmidt: Thank you, Mr. Brown. Are there any further questions? Yes, sir, would you please rise and state your name for the record?

H-1 Mr. Keene: Q. I'm Elery Keene. I'm from the North Kennebec Regional Planning Commission. During the time the site is in the test period or perhaps later in the operation, will the Air Force, within the fenced-in area, comply with State requirements with respect to personnel being employed in a hazardous area?

Gen. Shultz: A.

This goes back to a rather fundamental question. If differences exist between the State and Federal requirements, the Federal Government, from my understanding, is only required to comply with the Federal standards. Typically, the Federal standards and the State standards don't differ that substantially. By law, my understanding is that we are only required to comply with the Federal standards. General Bellis, who heads up the Electronic Systems Division, is going to meet with the Governor of the State of Maine later this month to discuss this in greater depth. I think that's really all I can say. Would you like to add some words to that?

Col. Bayer: A.

I'm Colonel Bayer from the Environmental Protection Group in the Air Force. I only say that I assume that you are talking about the Occupational Health and Safety Act, and that in fact is the Air Force's Executive Order that says that they will comply with it.

Mr. Keene: Q.

The State standards?

Col. Bayer: A.

The standards established by the Occupational Health and Safety Act.

Mr. Karl:

I'm Kenyon Karl, Maine State Planning Office. I just got into this particular area this afternoon. Elery Keene spoke with one of the people in the Health Planning, I'm sorry, the Health Engineering Section of the Health and Welfare Department. And, Elery, didn't you say that the State standards are a little higher than the Federal standards?

Maj. Schmidt:

Mr. Karl, I hate to interrupt but there will be a period for statements to be made for the record. I would like to keep this at this time to a question . . .

Mr. Karl:

O.K. I realize that I'm dealing in hearsay evidence, too.

Maj. Schmidt:

No, I did not even wish to address the hearsay evidence, but if you have a question to ask, please form a question. I will permit sufficient time for any statements to be entered into the record addressing this particular topic.

Mr. Brown: A.

May I add to the answer? Certainly in the test phase of this system the full power will not be turned on immediately. Low power will be applied first, tests will be made to assure the safety of the test personnel or whatever. From this information now we can project accurately what will happen when higher power is applied. And, in this sense, the answer is that your personnel working in the area will be maintained. You see?

Maj. Schmidt:

This statement was by Mr. Brown for the record. I would ask, please, that at this stage let's try to keep everything in a question and answer form. Now, the only way we are going to make a proper record that can be transcribed and sent on to Washington for analysis is if we

do this in an orderly fashion on a question and answer basis at this point. Now, most certainly we'll have plenty of time for individual statements that anyone wishes to make, but for the sake of an orderly proceeding, I would ask that anyone wishing to speak at this time address a question to a member of the Systems Command Panel that is present here, and I'm certain that they will try to answer your question. As I stated in the ground rules at the beginning, I cannot at this stage permit argumentative questions. I will permit argument and statements at the proper time in the hearing. The gentleman over here? Madame, excuse me, I didn't see you. Would you state your name for the record?

Mrs. Harwood: Q. Yes, I'm Irene Harwood and I'm 2nd Selectman of Bingham, and I did ask a question at the previous meeting and I asked for an answer and I just wondered if you had an answer for me?

Col. Hobgood: A. Yes, we have an . . .

Mrs. Harwood: If now is not the proper time, I could ask it later.

Maj. Schmidt: Col. Hobgood, may I ask for the purpose of the record that you state what the question was?

Col. Hobgood: If Mrs. Harwood would like to restate it. Would you want to state the question at this time again?

Mrs. Harwood: Let me read it from the news report.

Maj. Schmidt: No, I would like for you to restate the question, Mrs. Harwood, for the purpose of the record.

Mrs. Harwood: Q. I will. It's Mrs. Harwood, H-A-R-W-O-O-D. The question was, has there been any testing done in this country other than the Doppler testing which is a beep-beep effect? I understand that this is to be a constant radiation, low level constant radiation facility, and I understand, also, that the Soviet Union has done some testing on this and it has been reported to various magazines about the results. It was my impression, and I have tried very hard for the past month to find this article that I read, but can't find it again. I've been through every periodical that I have read. There was a report in some United States magazine that the Soviet testing showed a certain amount of nerve cell damage due to the constant low level radiation, and I ask for an answer on that at this particular time.

Maj. Schmidt: Thank you very much, Mrs. Harwood.

Col. Hobgood: A. I would point out that we did make a study of this and have prepared a rather lengthy informational answer to this. I could either read this out loud for the record, or . . .

Maj. Schmidt: Can you summarize it and we will attach it to the record?

Col Hobgood: A.

Well, I'll say then, summarizing, that all U.S. studies, both at CW and Pulse Doppler, have indicated that there are no harmful effects at the 10 milliwatt per square centimeter density. Going to the back of this then. In summary, the U.S. data, based for effects to personnel caused by high level electromagnetic radiation, confirms that the 10 milliwatt per square centimeter exposure level standard is conservative and provides adequate protection for those either working or living around the transmitter site with properly defined hazard areas. As for effects on central nervous systems, U.S. research does not find evidence of hazardous effects at the 10 milliwatt per square centimeter level. Then there is background information along this that the study is completed. I'll see that you get a copy of this.

Mrs. Harwood:

Thank you very much.

Maj Schmidt:

For the record, we will have this document marked as Exhibit 1 and it will be available on the center table for anyone to view during the recess. If you would so mark that as Exhibit 1. (Hands Exhibit 1 to Reporter) All right, are there any further questions? Yes, Maam.

Mrs. DeMusis: Q.

My name is Doreen DeMusis, I'm just a local citizen. I have a question as to the access routes that are going to be used into the site. Now, I've been told that you're going to go in off the Scott Paper Company road, that is locally known as the Deadwater. Then, when this thing becomes operational, I am told that you are going to use the Chamberlin Hill access. Could somebody please tell me what this is going to be?

Mr. Mansfield: A.

My name is Jim Mansfield, and I'm with the Civil Engineering. In the interest of economy we were proposing to utilize the Scott Paper road to a point here where it splits, and the road from that point on; it has been approved. We intended to improve it to provide access to our site. The length of that road does create a problem in maintenance purposes primarily, and we are willing to tolerate for a prototype operation. But when we go to an operational type system, and we expand to 180 degrees, I would anticipate that the volume of traffic would require that we limit our responsibility for maintenance of the road as much as possible. So I have anticipated at that time, and I still do, is to extend this county road from the point where it crosses the power line here, up and back, depending on local advice, what route that would actually take. Will it continue on up the plains and follow in back of the transmitter site to avoid what I know people have up here in the Chase Pond area as a kind of recluse?

Mrs. DeMusis: Q.

Will there be any requirement to widen the road in there, that is, the existing paved road?

Mr. Mansfield: A.

This paved road would not be widened, no. That's a two lane road and that's all that we need anyway.

Mrs. DeMusis: Q. What do you project the volume of traffic will be? Does anyone know?

Mr. Mansfield: A. That would really depend on the number of personnel that are here and I think we are talking about 40 people. Now, whether they all drive their own cars or not depends on what the environmental problems are around here. If we get involved in a commuter situation like Boston, then we'd have to carpool. But that is the number of people and that's 20 people based on 24 hour operation.

Mrs. DeMusis: Q. Are you paving in from the end of that road? From the County road?

Mr. Mansfield: A. I would expect, yes. In the final installation, we would have a paved road up to our property.

Maj Schmidt: Thank you, Mrs. DeMusis, Mr. Mansfield. Are there any further questions? Yes, sir?

H-2 Mr. John Hunt: Q. There's been mention of a fence. I'm wondering if this fence is designed to do anything other than exclude humans? And if it is designed to exclude other than humans, what characteristics will it have?

Maj Schmidt: Thank you, sir. Gentlemen?

Mr. Mansfield: A. It should exclude large animals. However, when some of these large animals are in a running situation, I'm not sure whether 5 strand barbed wire will stop them or not. But that's what we anticipate, it will be 5 strand barbed wire.

H-3 Mr. Hunt: Q. Then Maybe I should ask what is going to happen to a deer that goes and lays down in front of the antenna for the night or part of the day?

Mr. Mansfield: A. If he does get through the fence, then it would be up to someone else around here, like maybe Carl Brown.

Mr. Brown: A. I would anticipate the animal would feel the effects of this radar before it became injurious and move away from there.

Mr. Hunt: Q. It would not exclude birds of any kind?

Mr. Brown: A. There is no way we can exclude birds from the area.

Mr. Hunt: Q. Now, assuming that this radiation level is high enough so that there will be some loss of birds, what effect will it have on the other animals that consume these birds and other small animals?

Col Stukel: A. I think your question is, is there any residual effect on the bird if someone ate the dead bird . . . .

Mr. Brown: A. To the best of my knowledge, no . . . .

Col Stukel: A. No, none whatsoever.

Maj Schmidt: Just a moment, please. Could we have one person speaking at a time so the reporter can get down the testimony? Do you have anything further, Mr. Hunt?

H-4 Mr. Hunt: Q. Well, to pursue that point, I'm wondering what the MHz level will be immediately in front of the antenna. You were talking of tests of about 10, I believe? The Russians were talking about 50. I'm just wondering what it will actually be?

Col Hobgood: Well, I think the question is not MHz but power density. What is the power density there, immediately in front of the antenna?

Mr. Hunt: Yes.

Col Hobgood: A. This is calculable by an equation that is in the Environmental Impact Statement. I can't just whip out an answer right now. I don't know exactly what it would be immediately in front of the antenna. But some examples of densities.....I'd better not state from the top of my head, I can't give you an answer of exactly what the power density would be.

Col Stukel: Carl? Can you calculate what the power density would be?

Mr. Brown: A. No, I'm sorry, I cannot. Well, I could add this. There are other experimental systems, and in my inquiries in the last several days to this question, there have been no deaths of birds in these systems.

Mr. Hunt: Q. I believe in the test the figure 50 was used. Is that in the range that you would expect?

Col Hobgood: A. I think you're talking 50 volts per meter as a density. This is representative of that threshold for heart pacemakers.

Mr. Hunt: Q. I mean this was arranged.....test animals were involved, and they were involved for a period of 18 minutes, which brings up another question. I'm just wondering, there were test animals used, there were mice and there was a pig, and there was a level stated there of RF Energy, however, you want to express it. My question is, these test levels that were used on the pig and the mice.....is this the range you expect immediately in front of the antenna or where, in reference to the antenna?

Col Hobgood: A. I'll tell you, I would have to calculate from the equation an answer, which possibly I'll be able to do as the evening proceeds, and give you an answer, and it can be entered into the record if I can get it.

Maj Schmidt: Is that satisfactory, Mr. Hunt? If you will raise the question again later, I will bring it up again for the record, so that we can obtain an answer for you, sir. Any further questions, please? Yes, sir, would you stand and identify yourself, please?

Mr. Grunsby: Q.

Howard Grunsby, Bangor and Paratunk. My question is, when the site is fully operational, how does the Air Force intend to protect the site, and the second part of the question is, if this is one of our key defense outposts, will there be nuclear missiles put on this site for protection?

Maj Schmidt: Gentlemen, can anyone address these questions, please?

Col Stukel: A. First question, how will it be protected? I assume we are talking of protection in the sense, or protection from hostile acts by other countries? This cycle will not be protected from hostile acts from other countries. The second question, will nuclear missiles be put on this site? The answer is no.

Maj Schmidt: Are there any further questions? Yes, Ma'am. Would you stand and identify yourself?

H-5 Irene Foster: Q.

I'm Irene Foster and I live in Moscow. In the bulletin here, on page 3-1, it gives definitions of heat waves and the water requirements for running this for a day. Have you planned how you are going to dispose of this water? Is it all coming down Chase Stream, is some of it going down to Bassett Brook, or how is it going to be disposed of from the site?

Mr. Mansfield: A. It will be disposed of on the surface. The only contamination would be thermo water and sewage water. There are two demands, there is one demand to cool equipment and one demand for domestic purposes. Those would be two separate systems. The thermo water, the one used for the cooling of equipment, would be disposed of on the surface, depending on temperature increase, that water through the equipment, whether or not that would require a chemical cooling prior to disbursement on the surface. That would be disposed of on the surface. Domestic waste would be treated.

Irene Foster: Q. But you say disposed of on the surface, you can't just run out 1,000 gallons of water a day, 960 gallons an hour or so, a thousand gallons per hour, just out onto the ground, it's got to go somewhere? Which stream is it going to hit?

Mr. Mansfield: A. But that volume of water can either be piped to either Chase Stream or another stream, whichever is most convenient.

Maj Schmidt: Are there any further questions? Mr. Hunt?

Mr. Hunt: Q. One last question, please. There will be a power right-of-way involved and in your statement you said that it's location will be left to the Central Maine Power Company. However, there is a possibility of a deer wood area being involved and will this be taken into account in your Environmental Statement when it is prepared?

Mr. Mansfield: A. Do you know the place where it will be involved?

Mr. Hunt: Q. A place where power lines would have an adverse effect on deer.

Mr. Mansfield: There is a deer yard involved?

Mr. Hunt: Oh yeah.

Mr. Mansfield: Do you know it is involved? I mean we don't know the location of the power lines yet.

Mr. Hunt: Q. Will there be a chance to evolve a power line location that would not involve the area where the deer would be?

Mr. Mansfield: A. I would expect so. You have to have the right of entry.

Mr. Hunt: All right, thank you.

Mr. Mansfield: If you have a preserve area of any kind that you do not grant the right of entrance to departmentally, then they cannot cross that property.

Mr. Hunt: Quite often no one asked the deer! That's all.

Maj Schmidt: Are there any further questions? Yes, sir.

H-6 Mr. Keene: Q. I'm Elery Keene, North Kennebec Regional Planning Commission. With regard to electroexplosive devices, the statement refers to tests made and distances that might be of some danger, that apparently extends outside the fenced-in area. It refers to the dynamite cap, that tests indicate they will not detonate unless placed within 500 feet from the antenna in the main beam. Apparently, there are other types of electroexplosive devices that might be of significance, and I'd like to know what they are, and further I would like to know, I'm not sure if this 500 feet is within the fenced-in area, I think it probably is, but I would like a statement on that. And what I'm getting at is that how these areas sit with respect to the tests made on other types of electroexplosive devices, and I'm also concerned about the exact method of marking at the limit of the hazard area, and what that is?

Col Hobgood: A. I'd like to respond to a portion of this question. First of all, the distances that will be fenced in include out to the forty-four hundred foot distance which will fence out the hazard areas to persons who might be wearing heart pacemakers. The 500 foot is very definitely included. Keep in mind that these distances are in the transmitting direction, in what we call the main beam, not all the way around the site. Now, as to the other markings and the area you are talking about, either the transporting or the handling of electroexplosives, no, these will not be within the fenced-in area. Markings, I don't know, I'd have to ask Mr. Kliner, who is also from our system, if he could give an answer on markings that might be posted.

Mr. Kliner: A. No, I could.....

Mr. Mansfield: The only markings that are anticipated, since we are talking about transportation, would be what would normally be a transportation move in the area which would be posted where there is a hazard. I don't know what the information is going to be, rather than one that would be susceptible to radio frequencies.

Mr. Keene: Q. Dynamite caps are the only ones that you would be aware of?

Mr. Mansfield: A. Yes.

Mr. Keene: Q. That wasn't really clear. And then I'm still not sure how the line of the hazardous area would be marked?

Mr. Mansfield: A. The hazard area has been defined....it's not in the Environmental Statement.....but has been defined as far as our installation is concerned, and it's up to us for us to determine a point on a transportation move where we would be in violation of that hazard area.

Mr. Keene: Q. Would it be appropriate to include an outline of the hazard area?

Mr. Mansfield: A. Yes.

Mr. Keene: Q. I'm wondering if you have considered the possibility that people might be where they are not supposed to be in the woods approaching the site area?

Mr. Mansfield: A. Yes, we have, and that is something we will determine during the test period. But we have written requirements that we hang one of these things on the antenna wire and it doesn't explode. Now what we would expect during the installation checkup period, that this would then be checked out within our property so that we can find out exactly what happens.

Maj Schmidt: Are there any further questions, please? O.K. No further questions? It might be appropriate at this time to recess the hearing for a period of 10 minutes to give the reporter a rest and to allow you to reconsider. I will open the questions again for a short time after the recess. The hearing will now recess for 10 minutes to reconvene at 8:35.

The hearing recessed at 2025 hours, 11 September 1974.

The hearing reopened at 2040 hours, 11 September 1974.

Maj Schmidt: Ladies and Gentlemen, going back on the record, I will at this time reopen for a period of time the question and answer period. Are there any further questions from the floor? O.K., if there are no further questions from the floor we will proceed to that point in the hearing where the individuals that have indicated on the attendance slips that they do wish to speak at this hearing, will be called by name in alphabetical order. I would ask that as your name is called, that you come to the center table. This is for the purpose of allowing the reporter to properly record the statement or any comments that you wish to make. The first individual is Mr. Don Bourassa. Mr. Bourassa?

Mr. DeMusis: I'm here representing Congressman Bill Cohen. I'd just like to ask the people of Moscow, being in upper Somerset County area, to please write our Washington office and let Bill know how you feel about this. I'm sure that we will be paying close attention to any mail we do receive. Thank you.

Maj Schmidt: Mr. Cahill? You've indicated that you may wish to speak. Do you wish to speak at this time?

Mr. Cahill: No, I'm gonna listen awhile yet.

Maj Schmidt: All right, sir, thank you. Mrs. DeMusis?

Mrs. DeMusis: I'm going to listen. I'm listening.

Maj Schmidt: Mrs. Ben Evans?

Mrs. Evans, Q. Yes. I saw in the paper that this had been turned down in Wisconsin, and I wondered why?

Maj Schmidt: Are you asking a question?

Mrs. Evans: Yes.

Maj Schmidt: Can anyone address this question?

Col Hobgood, A. Yes, I read that in the paper too and was very surprised. The thing is, that was an entirely different program; it was a Navy program and it has nothing to do with this program.

Maj Schmidt: Do you wish to make a statement, Mrs. Evans, or did you just have the question?

Mrs. Evans: No, just the question.

Maj Schmidt: Thank you very much. Mrs. Irene Foster?

Mrs. Foster: I asked my question.

Maj Schmidt: All right. Do you wish to make any statement, Mrs. Foster?

Mrs. Foster: No.

Maj Schmidt: Mr. James Pinkerton?

H-7 Mr. Pinkerton: I have an extra copy of the statement for the hearing. My name is James Pinkerton and I am the District Forester for Scott Paper Company, located in Bingham, Maine. Scott Paper Company has two specific concerns regarding the proposed OTH-B Radar Transmitter site located in Moscow township. Our first concern involves the effect on the use and transportation of Electroexplosive Devices (EED). We commonly use the electrically detonated blasting cap during routine road construction and maintenance. We feel that the transmitter will have a serious effect upon our use and transportation of EED's. We feel it is

appropriate and essential that sufficient warning signs be posted along all roads within the danger area. Section 3-10 of the Environmental Statement indicates that such signs will be posted. It is suggested that perhaps posting signs both in French and English would be worthwhile.

It would be helpful to us to have a more specific definition of "non metallic containers" suitable for transporting EED's. Such containers are mentioned in the Summary on Page iii. Our primary access road appears to be about 8700 feet from the Radar Site. Any suggestions that Air Force personnel might have to minimize our problem will be most welcome. Will the area restricted to EED's be enlarged when the Radar Site is enlarged from a prototype to an operational model?

Our second area of concern is the effect of the Transmitter on our two-way radio communications. Our Woodlands Operation relies heavily upon our radio system. Especially important is our Base Station in Bingham at our maintenance facility. Our radio is licensed by the FCC as a Forest Products Radio; frequency Mc/S 49.38 - permissible power output 200 watts. On page 3-7 of the Environmental Statement it indicates that frequency guard bands will be established around user frequency assignments. We request that we be given consideration for such a guard on the foregoing bands assigned to the Forest Industry Communication System. Forest industry is an important part of the economy of the state and is licensed by the FCC for safety and emergency reasons. We also wish further information regarding the extent of interference to our radio system; specifically whether it will interfere with transmission from south to north and east to west crossing through the radar cone. Also, will the radar have any effects on our radio communication in the Abbott-Monson area? Will there be a more wide-reaching effect once the prototype becomes operational? If there will be any interference to our radio system we would welcome all possible assistance from the Air Force in solving the problem.

We appreciate the well-prepared Environmental Statement developed by the Air Force. This report has been instrumental in answering many questions that we at Scott Paper have had. We are convinced that in a spirit of mutual cooperation, Scott Paper Company and the Air Force can solve most of our concerns.

Maj. Schmidt:

Thank you, Mr. Pinkerton. The copy of the prepared statement will be marked Exhibit 2 and attached to the record of this proceeding. Mr. Edward Rollins? You had a question mark as to whether or not you wish to speak. Mr. Rollins? Do you wish to speak, sir?

Mr. Rollins:

No.

Maj Schmidt: These are the only individuals who indicated to me on the attendance slips that they wish to address the hearing. Is there anyone at this time who wishes to add any statement or to ask any further questions of the Air Force representatives here tonight? Yes, Ma'am. Would you stand and identify yourself for the record?

Mrs. Harwood: I'm Irene Harwood of Bingham. Because I said this at the previous meeting, I would like to have it in the record that I have read this Environmental Statement in its entirety and I think the Air Force has gone way out to do its very best to answer all the questions presented to it by the various departments of the State. I am much concerned with the environment of this particular area and I see no call for this particular development at all.

Maj Schmidt: Thank you very much, Mrs. Harwood. Going back into the record, Mr. Hunt, you raised a question that was unanswered for the record. Is there any answer available at this time?

Col Hobgood: Specifically, there is not. The question was, what is the power density immediately in front of the antenna. The equation I thought I might be able to use does not work that well as you shorten the distances that far. I will offer, though, that the tests that have been performed concerning the harmful effects of radiation have gone up to 10 times those that are being used as safeguards, that is, up to 500 milliwatts per square centimeter, with no harmful effects noted. I say the best that I can do as far as providing you with an answer as to what is the power density immediately in front of the antenna, is to take it back home and study it, and I'm sure we can provide you with an answer.

Mr. Hunt: Thank you.

Maj Schmidt: Are there any further questions from the floor? Yes, sir, would you stand and identify yourself?

Mr. Keene: Q. Elery Keene. I was interested in that 5 strand barbed wire fence. I wonder if this fence will be marked so that when someone approaches this he will not attempt to go through it and go into a hazardous area?

Mr. Mansfield: A. It will be posted as Government property and also as a hazardous area. All Government properties are posted.

H-8 Mr. Keene: Q. How frequently along the line of the fence?

Mr. Mansfield: A. That I couldn't tell you. I would like to think that it would be reasonably obvious that if there's a barbed wire fence that it is somebody's property. We can make it any frequency you feel you desire. But you know we have to have one every 25 feet or less; whatever you people feel is necessary.

Mr. Keene: Signs frequently enough so that people would realize what hazards are located in the fence itself; not just a fence because somebody doesn't want people or deer on his land.

Maj Schmidt: All right, sir. Are there any further questions? Mr. Hunt?

Mr. Hunt: Q. Yes, to follow that up. Will there be further State and local input into the design and the management of this site as time goes on?

Maj Schmidt: Could you clarify your question, Mr. Hunt? What do you mean?

H-9 Mr. Hunt: Q. Well, in the Environmental Statement there are proposals that, for instance, make this area attractive to wild animals, things that are going to be done, say, for the nature of soil stabilization. If the standard procedure are used for soil stabilization, this makes the area attractive to wild animals and there is some kind of a trap for birds, especially, so I'm wondering if the State agencies are gonna have further possibility of input in this. A better solution might be terracing, for instance, than planting of legumes, or something like that.

Mr. Mansfield: A. I think, to go further, the activity that will be involved in the operation of the site, that kind of human activity would have a tendency to keep wild animals out of the area that would be attractive, where we would have to maintain a level of vegetation which is suitable for the human eye.

Mr. Hunt: But it doesn't work that way.

Mr. Mansfield: Well, I guess what the difference is....you feel that if we had an area that was well-graded and attractive to the human, then it would be attractive to the animals as well. The only ultimate I would have, is that I would assume that the human activity would discourage animals from inhabiting the area.

Mr. Hunt: I would hope they would not end up doing the kind of activity that would have an effect on the animals.

Mr. Mansfield: Usually the animals part if there is such activity in the vicinity.

Mr. Hunt: That would be nice, but it doesn't always work that way.

Maj Schmidt: Gentlemen, would you confine this a little bit, rather than discussing this back and forth. Is there any further question, Mr. Hunt?

Mr. Hunt: I would like an answer to that one.

Maj Schmidt: Mr. Mansfield, can you provide an answer?

Col Stukel: Let me answer. Since I feel what you are asking is whether the Air Force is willing to consult with local agencies in the best way to achieve our end. I think we are willing to do that. We want to stabilize the soil.

If there is a way to do that that better satisfies the  
concerns of the local people, in terms of the game, etc.,  
and it still accomplishes our aim of stabilizing the soil,  
then we'd be more than willing to do that. We are going  
to need to come to local and State officials for advice,  
and we do this as a matter of practice anyway. I'm saying,  
we will do this and as long as we accomplish our aim of  
stabilizing the soil and that's the kind of first thing  
we've got to do. And in doing that, if we can do it two  
ways and one way is considerably better, in terms of the  
animal life, we'd be more than happy to.

The Air Force is coming to be a good neighbor and we want  
to fit into the community and you want.....we want  
the same things you do. I see no reason why we can't and  
won't work with local and State officials on these kinds of  
problems.

Mr. Hunter: Q. Do you initiate that as a matter of course? Like it says  
in your report, we are remote, we don't have the kind of  
experience with agencies of your size, so is this automatic?

C. F. Strader: A. Well, I can't speak as much in this area as I can in the  
area of the receiver site, where for several years we've  
been dealing with the local....what's the correct name....  
I would say Soil Conservation Office, I guess that's  
correct, you know, where we've actively dealt with these  
people. They provide input to us in terms of their partic-  
ular knowledge of the area and the established practices in  
the area, and I think we would do the same thing in this  
area, and I think that would be the local source of infor-  
mation. We turn down no advice.

C. F. Schmidt: Are there any further questions? Yes, sir?

Mr. Reeder: Q. The figures you have on local as compared to nonlocal  
employment, it is frankly higher than I had anticipated for  
local employment. Could you better define what you mean  
by local employment; does that mean local this Bingham area  
or local Maine, or what does that mean?

C. F. Strader: A. Local is the way we define.....what we look at....we said,  
what kind of a skill is required? And then we said, does  
that skill exist in the area? Now, the area may mean a  
50 square mile radius.....in terms of 50 miles...in terms  
....people who are physically in the area who have the skill  
and can either commute from where they live now or they  
may elect to move in closer. The thing we were concerned  
about....does the skill exist in the area, is this the  
typical kind of skill that you would find in this country?  
that's what the local thing is based on. If we need a  
highly qualified electronic technician....there is a  
short supply of those, so they fall into the category of  
who will move into the area, have been brought in here.  
If you are talking about someone to clear land....you're  
talking about bulldozer operators, people for security  
guards, clerical help and road maintenance and snow  
removal, these kind of things are talents that exist in  
the local area. There would be no reason for us to bring  
that kind of people in, absolutely none, so that's how it  
is, based on the skills that are here.

Mr. Keene: Q. Now you were thinking of, say, Somerset County, as the local area, or were you thinking, say, the northern parts of Somerset County?

Col Stukel: A. I would say that the job would be essentially advertised in this area versus wherever the prime contract is. If you are going after an electronic technician which would be located in New York or Boston or someplace else, that's probably where he would find those people, and he would hire them and bring them here. Here I would anticipate we would be looking for a local construction firm or hired from the local area. I can't really say if that's going to be just the Township or just the County, I can't say.

Mr. Keene: Q. Would you have any idea whether they would be members of the Union or not?

Col Stukel: Let me ask Jim Mansfield to answer that one. He's a Civil servant, he can better address that.

Mr. Mansfield: A. I would expect that they would be Union people. I expect the general contract to be a Union contract.

Mr. Keene: Q. The third question I had on this was, I was just making some mental division on the number of employees and the amount of payroll for the local people. Does that mean that these people are employed only part of the year, so those aren't annual wage rates or are those the annual wage rates they expect?

Col Stukel: A. No, when you got out into the operational phase where we were talking 20 people, 20 local people, those are the full time employees for essentially the duration of the system. Since the duration of the system continues to operate for 10 years, we would need those skills, those people, for that period of time. When you are talking in terms of construction, I suspect the kinds of people would change. When you are doing cement work or clearing work, there would be a change in the kind of people. There may not in some areas; you may need some clerical people and some security people during the construction phase and you may need all of them during all the phases. So I suspect that you may have some that are continuing kinds of jobs, but there will be some that vary. To build a building you need an electrician. You're going to need him for a period of time.

Mr. Keene: Q. But if you divide the payroll with the same \$120,000.00 by 28 employees, that doesn't mean you get \$6,000.00 a year.

Col Stukel: A. Run that by again.

Mr. Keene: Q. You indicated a payroll in the range of \$120,000.00 and 20 local people; does that mean that you would expect they will be paid at the rate of \$6,000.00 a year?

Col Stukel: A. There are different levels for which each individual identifies. A security guard, for example, has a separate pay scale, which it was calculated to be; a supervisor of a security guard has a different one; as a Secretary, a different one, so there is a different wage level for each individual, for each category of individual, and, as I recall, let me check some of the figures, these were taken off the wage rates from the local area. Certain wage rates are for certain jobs. Let me just pull out some of them here. For example, a secretary clerk, per hour \$3.21, per year, 6.4 thousand; carpenter \$6.00 per hour, \$12,000.00 per year; mason, \$6.95 per hour. These are the established wage rates for this area.

Mr. Keene: Q. That's a little more optimistic than what I got when I divided it.

Col Stukel: A. Well, if I go through the rest of them...I think...well, the lowest one I see here is the secretary clerk. Let me find the security guard. Security guard, now here is one that comes out relatively low, \$3.23 per hour, 6.5 thousand a year; and there are a large number of security guards figured into that \$130,000.00. I think the number is 15 security guards. So you can see that there is a quite heavy number of security guards figured in that number.

Maj Schmidt: Sir, would you stand and identify yourself?

Mr. Poland: Q. Rick Poland from Athens. If I could just refresh your memory, Colonel, and clear up something that Elery questioned? When you gave those figures for 1975 you mentioned that construction wouldn't begin until late in the spring, so probably those figures are based on 7 or 8 months?

Col Stukel: A. The first of '75 is a half-year type of thing.

Maj Schaidt: Are there any further questions or any other statements to be made?

Maj Schmidt:

At this time, since there appears to be nothing further, I would like to sincerely thank everyone attending this meeting. Now, I am particularly grateful for the questions that have been asked and the statements that have been presented.

As I stated in my opening remarks, 45 days from the date that the Air Force filed and distributed the revised Draft Environmental Impact Statement, are allowed for written comments. We have placed on the chalk board at the end of the hearing room, the address of Dr. Welch, for those of you who would like to copy this address. These comments are due by September 23, 1974. Additionally, the written comments that have been placed upon the attendance slips, will be attached to the transcript of the proceedings.

If anyone has any further comments that they would like to submit, they will be allowed the period of 5 days from the date of this hearing to mail their comments to me, Major James Schmidt, 42d Combat Support Group, Loring Air Force Base, Maine 04750. If there is nothing further, Ladies and Gentlemen, the hearing is adjourned. Thank you.

## PERSONNEL RADIATION HAZARDS

The US Air Force is required by Executive Order to comply with Department of Labor Standards for Personnel Safety. Part 29 of the Code of Federal Regulations 1910.97 establishes the permissible exposure level for personnel as a power density of 10 milliwatts per square centimeter. The Air Force in installing the transmitter site and establishing hazard boundaries will comply with officially established national standards.

The 10 milliwatts per square centimeter ( $\text{mW/cm}^2$ ) permissible exposure level was defined and accepted in 1958. At that time the level was determined to be conservative by a factor of 10 for microwave frequencies (300 megahertz (cycles per second) and above). Subsequently research work reported from Communist Bloc countries indicated much lower levels. As a result United States standards have been re-evaluated by several groups. After approximately five years of extensive effort the current US exposure levels have been reaffirmed. For example, the C-95 Panel of the American National Standards Institute, after two years of study, recently confirmed the  $10 \text{ mW/cm}^2$  exposure level. This panel is composed of Government, industry, environmental and public representatives.

The US scientific community, as noted above, is aware of the Russian exposure standard of .01 to  $.1 \text{ mW/cm}^2$ . These levels are a factor of 1000 to 100 times lower than the US standard. However, there is very little US research work that indicates the existence of extremely low level effects. Most of the US studies performed with either pulsed or continuous wave (CW) radiation demonstrate that a lower level is not required to insure the safety of personnel. The Air Force research program conducted by the USAF School of Aerospace Medicine, Brooks AFB, Texas has demonstrated that the permissible exposure level can be safely raised to  $50 \text{ mW/cm}^2$  for the high frequency band 3-30 MHz. This has been done by irradiating animals and insects to much higher power density levels and demonstrating that there are no effects. No effects were noted at power densities 10 times greater (at  $500 \text{ mW/cm}^2$ ). As a result of these experiments a Petition for Change to increase the exposure level to  $50 \text{ mW/cm}^2$  is being prepared and will be forwarded through the Air Force Surgeon General to the Side Effects Working Group of the Electromagnetic Radiation Management Advisory Council, and ultimately to the Occupational Safety and Health Administration of the Department of Labor for action.

It is the opinion of US researchers that the Russian standards are not valid as currently presented or interpreted. Such opinion exists for several reasons. First, there is evidence that the Russians do not apply or comply with their own standards (the restricted area around transmitters such as radars, radio and television would be quite extensive and has not been so observed). Second, there is an indication that they are moving to change their exposure levels to be more in line with the US levels. Third, the Russian experimental work cannot be verified. There is some thought that there may be a difference in the way power density or field strength is measured. US representatives intend to visit the USSR to determine the basis for the Russian standards and obtain more information about their experimental work.

The CONUS OTH-B system to be installed employs a continuous wave (CW) transmitter while most prior systems had used pulsed modulation. There had been some question as to the difference pulsed or continuous wave modulation would make on the radiation hazard experimental work. In fact there is no difference because the US standards are based on average power. Both pulsed and continuous wave radiation have an average power factor. So basic investigations with pulsed radiation are applicable to a continuous wave case as long as the average power involved is the same.

An additional safety factor applies to the installation of a high frequency (HF) transmitter because of the longer wavelengths involved. The majority of the biological hazard research has been done at microwave frequencies, 300 MHz and above, where more of the energy incident upon a body is absorbed. HF is significantly different in wavelength from the peak absorption effects. For example, the wavelengths for several frequencies are:

300 MHz	1 meter
30 MHz	10 meters
3 MHz	100 meters

Some studies show that absorption peaks at about 1000 MHz or 30 centimeters wavelength. Much less energy is absorbed by the human body at HF.

In summary, the US data base for effects to personnel caused by high level electromagnetic radiation confirms that the  $10 \text{ mW/cm}^2$  exposure level standard is conservative and provides adequate protection for those either working or living around a transmitter site with properly defined hazard areas. The basis for the Russian standards cannot be determined. As to effects on the central nervous system, US research does not find evidence of hazardous effects at the  $10 \text{ mW/cm}^2$  level.

Statement at Air Force special meeting on September 11, 1974 at  
Moscow school re. Radar Transmitter Site in Moscow.

My name is James Pinkerton and I am the District Forester for  
Scott Paper Company, located in Bingham, Maine.

Scott Paper Company has two specific concerns regarding the  
proposed OTH-B Radar Transmitter site located in Moscow township.

Our first concern involves the effect on the use and trans-  
portation of Electro-Explosive Devices (EED). We commonly use the  
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and maintenance. We feel that the transmitter will have a serious  
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It is suggested that perhaps posting signs both in French and English  
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radio station in Bingham at our maintenance facility. Our radio is  
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If there will be any interference to our radio system we would  
welcome all possible assistance from the Air Force in solving the  
problem.

Radar Transmitter Site - Moscow

Page 2

We appreciate the well prepared environmental statement developed by the Air Force. This report has been instrumental in answering many questions that we at Scott Paper have had. We are convinced that in a spirit of mutual cooperation, Scott Paper Company and the Air Force can solve most of our concerns.

JWP/jpd  
1/74

SUPPLEMENTARY RESPONSE TO THE INFORMAL PUBLIC HEARING

CONUS OVER-THE-HORIZON RADAR SYSTEM  
MOSCOW, MAINE

11 SEPTEMBER 1974

H-1 Mr. Elery Keene, Page 8 of the Moscow transcript.  
The Final Environmental Statement (FES), paragraph 3.d.(2), Pages 21 and 22, has been revised to include safety requirements for personnel working within the restricted area. Also paragraph 4.a., Page 35, of the FES has been revised to include the measures and controls which will be implemented to minimize the impact of any adverse environmental effects.

H-2 Mr. John Hunt, Page 12 of the Moscow transcript.  
Two types of fences are referred to in the statement, a perimeter fence and a security fence. A perimeter fence which consists of 3, 4 or 5 strands of barbed wire or similar light duty low cost material is normally placed on the property line to identify the limits of the property, and to restrict trespassing. Ownership of the property and or restrictions on trespassing are usually posted on the fence. In locations where the trespassers are likely to consist of animals, five strands of wire are used to impede access. A security fence (cyclone or chain link) is normally used only in those areas within an installation where controlled access is required.

H-3 Mr. John Hunt, Page 12 of the Moscow transcript.  
The FES, paragraph 3.d.(2), Pages 21 thru 24, has been revised to include the effects of HF radiation on wildlife.

H-4 Mr. John Hunt, Page 13 of Moscow transcript.  
The FES, paragraph 1.e.(4), Pages 12 and 13, has been revised to include information on power densities (field strengths) at different distances from the transmitter. Also see Appendix B, Page 58.

H-5 Irene Foster, Page 14 of the Moscow transcript.  
The FES, paragraph 3.a., Pages 16 and 17, has been revised to include the current information concerning water requirements and waste water discharge.

H-6 Mr. Elery Keene, Page 15 of the Moscow transcript.  
The FES, paragraph 3.d.(2), Pages 21 thru 26, has been revised to provide information defining the radiation hazards and the hazard areas.

H-7 Mr. James Pinkerton, Page 17 of the Moscow transcript.  
The FES, paragraphs 3.d.(2) and 3.d.(3), Pages 21 thru 26, has been revised to include your suggestions and to provide additional information concerning radiation hazards, hazard areas and radio frequency interference.

H-8 Mr. Elery Keene, Page 19 of the Moscow transcript.  
The FES, paragraph 3.d.(2), Page 21, has been revised to provide information pertaining to hazard area warning signs.

H-9 Mr. John Hunt, Page 20 of the Moscow transcript.  
The FES, paragraph 4.a., Pages 35 thru 38, has been revised to include the measures and controls which will be implemented to minimize the impact of any adverse environmental effects.

APPENDIX I

INFORMAL PUBLIC HEARING  
CONUS OVER-THE-HORIZON RADAR SYSTEM  
HARRINGTON, MAINE  
12 SEPTEMBER 1974

OFFICIAL TRANSCRIPT  
EXHIBITS  
SUPPLEMENTARY RESPONSES

The supplementary responses are addressed to comments and questions specifically identified in the official transcript and exhibits. The identification is a reference number to the left of the particular comments or questions.

TRANSCRIPT

INFORMAL PUBLIC HEARING

OVER-THE-HORIZON RADAR SYSTEM

HARRINGTON, MAINE

12 SEPTEMBER 1974

PRESIDING OFFICER

Major James L. Schmidt

42d Combat Support Group  
Loring AFB, Maine

REPORTER

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42d Combat Support Group  
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Lieutenant Colonel John Bayer

Environmental Protection Group  
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TRANSCRIPT OF PUBLIC HEARING

ON THE

OVER-THE-HORIZON RADAR SYSTEM

HELD ON

12 SEPTEMBER 1974 IN NARRAGANSETT HIGH SCHOOL, HARRINGTON, MAINE

The hearing was called to order by Major James L. Schmidt at 1930 hours on 12 September 1974.

Maj Schmidt:

I am Major James Schmidt. I am the Staff Judge Advocate at Loring Air Force Base, Maine. I've been directed by the Office of the Secretary of the Air Force to conduct an informal public hearing on the revised draft Environmental Impact Statement filed by the Air Force on the proposed construction of the Over-The-Horizon Radar System in the State of Maine. It is proposed that the transmitter site be located in Moscow-Caratunk, Somerset County, Maine, and that the receiver site be located in Township 19MD, Washington County, Maine. The Air Force filed and distributed this statement for comment on July 30th, 1974. The purpose of the draft, under the Counsel on Environmental Qualities Guidelines, is to set out the agency's analysis of the environmental impact of the proposed action and the alternatives to it. Forty-five days, until September 23rd, 1974, are allowed for written comments. Written comments should be mailed to Doctor Billy E. Welch, Special Assistant for Environmental Qualities, Office of the Secretary of the Air Force, Washington, D. C. 20330. For your convenience, this address has been placed on the blackboard to my left. In addition, in view of the controversy over the environmental impact of the proposed action, the Air Force has scheduled these hearings during the comment period. After the Air Force has analyzed the comments and the transcripts of the public hearings, it will prepare a final Environmental Impact Statement that takes into account and is responsive to the statements made. The final statement will be used in the process of reaching the final decision. My role in this proceeding is simply to conduct the hearing, I will not make a decision or offer a recommendation on the proposal. Tonight's proceedings will be recorded by the gentleman on my left, who is a fully qualified court reporter. We also have back-up tape recording. The purpose of the hearing is to gain an understanding of the feelings and opinions, in this area, concerning the environmental impact on the proposed location. It is an informal hearing. This does not mean we will sit around and chat--how pleasant that would be, from my point of view, there are too many of us here for that and the court reporter would find it difficult to record the statements. Informal is a lawyer's term for non-adversary hearing, with no cross-examination to prove the truth or falsity of statements. Rather, we want to hear from individuals in this area and how they feel about the environmental impact of the proposed action. The ground rules for this informal hearing are few and simple. The hearing will be opened by a representative of the United States Air Force's Systems Command who will give a short description of the project and its environmental impact as seen by the Air Force. Immediately afterwards there will be an opportunity for clarifying questions from the floor. This is to assure that everyone is clear on what the Air Force

proposes. I cannot allow argumentative questions or leading questions, statements disguised as questions or other forms of cross-examination. They are entirely proper in court, but not in an informal public hearing. Therefore, please feel free to ask questions. Limit them to those of a clarifying nature about the presentation. If you have comments to make, the time to make them is during your own presentation. To ask a question, would you please stand and wait for me to recognize you. When asking a question, it would be helpful if you would give your name and your address for the record. After the questions to the Air Force, we will take the speakers that signed up tonight to address the hearing. Speakers representing groups may take up to thirty minutes for their remarks. Individual speakers may take ten minutes each. After the question and answer period, we will have a short recess, and I will pick up any further slips which may be made out during the recess. Please note that you do not need a prepared statement. Please feel free to speak off-the cuff if you have something you'd like to see included in the record. In addition, any statement made on the place provided on the attendance sheets will be included in the record of the proceedings. When you come up to make a statement, I will ask that you come up to the front of the room. Please give your name, your address and whether or not you are representing a group; if so, the name of the group. If you have any written statement or material that you wish to be included in the record of the hearing--if you would please present it to me, I will mark it as an exhibit and give it to the reporter for inclusion in the record. The first speaker will be Lieutenant Colonel William A. Hobgood. Colonel Hobgood.

Lt Col Hobgood:

Good evening, Ladies and Gentlemen. I am Lieutenant Colonel Bill A. Hobgood, Deputy Program Director for the Continental United States or CONUS Over-The-Horizon Program Office. I'm going to be giving you a brief overview of this radar and a little insight into it prior to your making of asking questions and making your statements. To start with, I'd like to just give you a very brief insight as to how Over-The-Horizon radar works. Depicted here (showing view graphs), we have the earth's curvature of radar and an aircraft approaching the radar hidden beyond the earth's curvature. Conventional radars use the frequency of 1000 megahertz, normally called microwaves. Radars cannot operate the way an Over-The-Horizon radar can. These conventional radars would transmit energies that have to follow a straight line and once penetrating the ionized layer surrounding the earth, of the ionosphere, it would simply penetrate this layer and continue into space. By using frequencies in the HF or high frequency spectrum from approximately 5 to 30 megahertz in frequencies, these frequencies can be projected into the ionosphere. They don't penetrate, at least the ones we use, they are bounced or reflected back down toward the surface and upon finding or hitting the aircraft coming in, some of the energy is reflected backwards, retraces its path and the aircraft is directed at the receiver of the radar site. The conventional radars that I've mentioned only permit detection out to about 200 nautical miles. An Over-The-Horizon radar permits detection on the order of thousands of miles. Now, in the response time of detecting an incoming potentially hostile aircraft, the conventional radar permits you only a matter of minutes, 10, 15, 20 minutes, depending upon the speed of the aircraft. An Over-The-Horizon radar can permit detection, let's say, an hour or hour and a half or so

before its arrival. Now, what this permits is to not only ... your warning against aircraft that might carry bombs or it might have the capability to have aircraft mounted missiles when all you have to do is approach a shore and launch the missiles and head home. With the conventional 200-mile radar, we wouldn't know what hit us, so thus the need to update our detection system. The technique of using HF frequencies for radar detection has been experimented since the 50's. The result of all those experiments, of those knowledgeable of Over-The-Horizon community, have every confidence that if one were to implement or construct such a defense, detection system, in the lower latitude away from the polar cap or the auroral oval, that the technical risk of having a successful system will be near zero. Now, that's the area that is indicated by one here (pointing to a map). These are the lower geomagnetic latitudes in which the ionosphere itself is very well behaved, very predictable and, thus, you can anticipate the results and have a successful system. Now, in the regions, numbered two here (pointing to the map) outside of the auroral oval, in which one looks either very near it or into it, the ionosphere is very often disturbed. This condition is not nearly predictable, and we need more information on such operations. As a result, our direction is to, first, we must acquire, construct and test, for one year, a prototype, a test radar. Should the result of this one year test prove that to employ an operational or deploy an operational system that is feasible or practicable, then we will go on to what we call Phase 2 and 3 of the program and that is at the northeastern site where we intend to construct the prototype, a test radar, expand radar's capability into an operational radar and in parallel with that over in the northwest, in the State of Washington, build a second, you might say, mirror image operational radar, thus, providing Over-The-Horizon detection on both eastern and western shores. Now, the surveys, in trying to site these, well, first of all, I must regress a moment and tell you a little bit about the particular technique to be used with this radar. We are going to use a technique known as FMCW, Frequent Modulator Continuance Wave. Now, with this technique, I can say is that it requires a transmitter, which propagates the signal and your receiver, which receives, detects the target, must be separated on the order of 100 to 125 nautical miles. Now, in trying to set up the transmitter, a set of parameters or arguments that we had to follow, starting with, it has to be five miles outside an established airway in a relatively remote area to minimize the impact on other communication systems. You can find this in the Environmental Impact Statement all of the parameters that were considered in deciding the site for the transmitter site. Now, this resulted in it started back in the seventies or back around the seventies--and has gone up to the present and has resulted in the selection as the desired, preferred site for the transmitter, a location in a wooded area about. I think it's about eight miles north of Moscow, Maine. This is Bangor, down about here (points to map). Now, going back to the parameters in selecting the receiver site, it needed to be about 100 to 125 miles from the transmitter site and, in addition, due to the large size of the antenna used with the HF frequencies, the lower your frequencies the larger the antenna. The large antenna structure is required, and, as I say, the receiver site needed to be 100 to 125 miles, roughly, from the transmitter site and does require a large expanse of relatively flat land. The survey resulted in the Montegail Pond as the desired or the proposed site for the receiver. Now, this is a blowup of the area to

better depict the location of the proposed locations for the receiver site. Montegail Pond out here and, as I mentioned earlier, the prototype would require an area of about, the large antenna, of about 310 acres maximum, but in order that the contractor, who wins the competitive contract for this system to have the flexibility to make sure he can orient this thing in the direction he deems necessary and to move it around, we have indicated in our Environmental Impact Statement the requirement for 500 acres to insure that he would have the flexibility required to put the antenna in that position that would gain the best performance. So, you will find that this is indicated as 500 acres. Again, after a year's testing, should the prototype prove that an operational system is feasible, then Phase 2, the expansion of the system into an operational, fully operational system will require additional lands for additional antennas structures. The blocks labeled B, C and D are the other proposed locations for the other additional sites. Now, that's about all I am going to say on the program itself for the moment. I'd like to explain to you the Environmental Impact Statement process. In implementing such a program as ours, we are required to prepare an Environmental Impact Statement. It gives some information on the program itself and also the impact, as we see it, on the community in which the system will be constructed. Now, here is some of the things we have to go through. We prepare the statement, the Air Force reviews it or approves it as a draft, it's published, it's sent out to the public for comment, that's the phase we're in right now. Our draft Environmental Impact Statement was made available to the public on 9 August. There are 45 days to respond to the comments on that, this falling on 23 September, and during this time, if the Air Force deems it appropriate, informal public hearings are held. We definitely see this as appropriate and definitely in order for this system. So, that's why we're here holding these hearings--to get your comments on this system's impact on your environment. After the comments are received, it's inevitable that the draft Environmental Statement will have to be revised. After revision, it will be published and released again as the proposed Final Impact Statement, revised as a result of increased knowledge and comments. After that, there are 30 days as opposed to 45 days. Only after the document has really been finalized can we go to Congress and request permission to acquire real estate upon which to construct the radar system. So, it's only after this document has been finalized can we request such approval from Congress. A little bit about the document itself and some of the environmental impact that we do consider for one--we consider both, now, this is the transmitter, of course, which is over in the Moscow-Caratunk area, the impact of the transmissions both on humans and other communications systems: For instance, we spell out the fact that we will fence in up to and including the hazard zone. That would be hazards to humans wearing heart pacemakers and, of course, this also fences in any other hazardous zones to any other persons. Anyway, that's something we addressed in the document. Air pollution, the prototype radar will not have power plants built on the property. Commercial power will be used for both the transmitter and receiver site. However, in the fully operational system, back-up power plants used in the case of failure of commercial power will be constructed both at the transmitter site and the receiver site. Naturally, there is exhaust from such plants and the exhaust process will be filtered and noise eliminated to protect the environment. Foliage and soil, primarily out in the transmitter area where it is heavily wooded at the moment,

are roughly 350 acres that would be required for the prototype system, about 70 acres, about 20 per cent, must be cleared. Another 70 acres would see a selective topping of the trees just to clear the path of the beam. In the area on the barrens, it would not be expected that there will be very much clearing required because of its flatness at the moment. This is not so in the case of the transmitter area. Those areas that are cleared will be stabilized to prevent inevitable erosion. We will also stabilize erosion from both wind and water. We will abide by all State and local law in this respect. Whatever the law says, we will indeed abide by them. So, socio-economic--I'm going to halt here and let Colonel Stukel address you. As you know, the last time we were up here we had a rather lengthy discussion on the economic impact. We have performed some studies and Colonel Stukel would like to present them to you.

11 Col. Stukel:

I hope you can hear me basketball game as well as we can up here. If you can't hear me back there, indicate to me and I will speak a little louder. One of the requests you made the last time we were here on the 27th of August is to try to clarify in terms of the dollar input that we will be making into the community. We have done this, and now I want to explain to you how we came about it and the kind of impact that we anticipate. There are many ways you can approach it. One way is to look at the payroll that will be coming into the community. This is a relatively easy way, and you can do a fairly good job of estimating. Another way of looking at it would be to look and see what the contractor might spend in the area in terms of the hotels, motels, the restaurants, the cement he might buy to build buildings and these kinds of things. That's a much more difficult job, but even that can't be done as accurately because those vital decisions must be made by the contractor, will be made by him. It is much harder for us to anticipate how that will work out. So, we will look at things like the payroll. That's what I would like to address now. What we have done is we have broken up in terms of the receiver, the transmitter and the operation site. This slide applies only (showing slides) to the receiver site. Then, we have looked at the basic phases of the program. Phase 1, the prototype--we've broken it out in sub-phases, construction, installation and test. Then, we've done the same thing for the operational system which is Phase 2. Now, the construction program, if things go on schedule, we anticipate will begin in the middle of 1975 and the figures that we have presented over here for salaries represent the salaries for half of a year. So, we see construction taking place in 75 and 76, installation in 77, and testing in 78. Now, there is some overlap to these, but this is the basic things that will be going on during those years. Then, we have attempted to identify the type of people who will be occupying the various positions that are necessary. We've broken these into two categories--local people, local essentially being people from the local community who have the skills to fill the kinds of jobs that we see taking place on this particular program. The others, we classify them as other in that we feel that we have to come from outside the local community. We're talking highly skilled electronic technicians. Based on the surveys that we ran in this area, that's not one of the skills that you have in this area. So, they will be brought in from other areas where you would find these kinds of skills. So, you

can see how the nets vary, depending on what's going on. If you're talking about basic construction work--those kinds of skills exist within the local community. As you get into the installation or test area, you can see it becomes more dependent on outside for the hired skills. We've taken these particular types of jobs and we've calculated them, the wages based upon the Davis-Bacon wage rate. These are wage rates set up by the federal government which apply to various localities. We use those that apply to this particular locality. Based on those wage rates, different kinds of jobs that we anticipate--these are the salaries expressed in the thousands of dollars that we anticipate coming into the local community. So, you will see here in 1975 (points to view graph), which is really just a half a year, we anticipate 110 thousand dollars would be paid in payroll to local people from the local area and approximately 50 thousand for people outside the area. All of these people would be people that would be present in the community. Others, you would see some turnover in these people. Some people would be here throughout the entire process. Other people would come in for a particular job involved. You would see these people turning over as the construction phase ends. You will see people coming in on the installation phase and some new skills coming in on the test. Some of these people who might be here for the entire duration--the site manager or some of these kinds of jobs. So, you can see the kinds of payroll we anticipate coming in the area. So, we've gone through the prototype phase. We've done the same thing for the operation. Out here we merely put them on a per year basis. The operational phase here--this is what the condition that would exist (points to view graph) for the life of the system after it is built. This is what will go on for about 10 or 15 years. The kinds of figures you're talking there are essentially 130 thousand paid to local residents and about 300 thousand paid to others who come into your community, in a sense becoming residents, due to the fact they would be here for many years. So, we're talking in terms of approximately 430 thousand dollars in payroll at the receiver site. Now, you can see that there is some ups and downs--1.3 million here. That is on a per year basis during the installation phase, which really just covers a year to two years. Now, we've gone through the same type analysis for the transmitter site and let me show you those figures. They are not of much interest to you, but they are essentially the same kinds of people. Now, you will see that the construction phase is a little high in the overall rate during the long haul, is essentially the same. It's the same type of figure. We've also done this for the operations site. During the prototype phase the operations site is going to be co-located with the receiver site so they will be together. When we go into the operational phase, then it's going to be a separate site. The Air Force was primarily considering Brunswick down at Topsham Naval Air Station. Recently, we've begun looking at Bucks Harbor. Quite frankly, the reason Bucks Harbor is getting so much interest, as you are aware, the current operations at Bucks Harbor is due to phase out within the next couple of years. The Air Force will be moving out of there and FAA will be taking over the operation and I believe Major Hoff is the best source of information. I think FAA will have about nine people there. I believe right now the operation has about 120 people and approximately 20 civilians down there and about 40 to 50 people down there, military are living in the civilian community. They have a total payroll of about, I believe, 1.47 million, essentially, one and a half million dollars. With the phase-out of Bucks

Harbor, those radars going out and what's left being transferred to the FAA, that operation will cease. So, the Air Force is considering putting this operational site at Bucks Harbor. Now, this is a tremendous advantage from the Air Force's viewpoint of putting it there versus going down to Brunswick. One is we've got an existing facility there. It's the kind of housing we need for the military to be coming in, we're talking essentially about 110 people to be involved in that operation and that's about what you have at Bucks Harbor now. We would anticipate about the same civilian-military mix that you have at Bucks Harbor now. So, the facility down there, in terms of personnel, would be quite suited. In terms of communications, it's ideal. We would be able to go with one hop coming out of the Montegail Pond area over to Bucks Harbor, whereas if we would have to go down to Topsham, we would have to take, we would have several repeater stations along the way. So, it does have tremendous advantages for us. Since it has become known that the operation is going to phase out down there and the result of that, we're taking a harder look at it, and I suspect it will be six to eight months that will be getting a lot of study. I was down there myself a couple of days ago. We will probably have to construct one large building there. Outside of that, the facility, as is, looks like it would be highly suitable. We will have to put up a building of about 20 thousand square feet. That's what we are lacking now. So, that's actively being considered. The main advantage stems from the existing facility and its nearness to the proposed receiver. So, you can see that if this goes down to Bucks Harbor--if the decision was made to put this in to Bucks Harbor, this operation would be essentially replacing what is going to be phased out down there. Their payroll is 1.5 million. If you consider the payroll we anticipate is about 1.7 million, in these figures that we've got here, the 110, this does not include people for the essential operation of the base. So, the 110 figure, if we took over Bucks Harbor, would have to be increased to include the people to maintain the base. This figure addresses the people necessary just for the radar. So, this could, and I say only could, because it's under study now, that could affect your area. One of the other things we were asked to do, when we were here the last time, was to try to assess what would be the loss in terms of us taking certain acreage out of the production of blueberries. I happen to have a PhD in Physics and a Master in "Double E" and--but I think I am a total failure in trying to assess these. But let me tell you what we tried to do and I believe that the State officials are going to give us a more accurate assessment tonight. What we did, we took all the prepared questionnaires and essentially asked the kind of information we thought we needed to know, how many acres are involved, and who has them. We are going to include in our cost, the blueberries, what your average yield is with your blueberries, how many pickers you use, this kind of information hoping that once we got that information from the landowners, we will be able to do a realistic assessment. I think we went out to nine landowners. We got two responses back. Both responses said, we don't grow blueberries. So, we didn't have any information to base upon from our survey. So, what we did, we used some information provided by the State and we also-- all information was provided by the State. It turns out on the high side, but let me go through it for you. We said in the prototype system we anticipate that we will take out of production approximately 310 acres-- 310 acres. Based on the fact that you burn every other year and in a

given year, years you take approximately 155 acres out of production, then, based upon our study of how much a particular picker picks a day and we figured up how many pickers would be out of business. Now, we came up with 44 people who would be put out of a job picking this 155 acres. Then, we went to information provided by the State in trying to assess other wages involved or paid out to individuals for things other than picking in terms of spraying, in terms of rowing and the rest of the operation. We took this figure provided by the State, but we have no estimate at all on that and this was 23 thousand dollars on this 310 because you're doing something to all of it in a given year. Then, we had to determine what kind of farming material was used. Here again, we went to the State figure for this, and it came up to eight thousand. Then, we had to ascertain what the average yield was you would get off this land. The State average was 20 bushels per year, but we upped it to 30. I suspect there will be people who will think we didn't up it high enough and I sure would like to hear from you. So, we said if he averages 30 bushels per acre and if he sells at 33 cents per pound, which I won't buy for that price, I realize that this year's price is 18 and last year it was 26, but once again we went on the State figure and we went a little higher. I would rather be high than low on this one. Now, we said the blueberries you produce on this 155 acres--that you got 30 bushels per acre and sold them for 33 cents per pound, would bring you 69 thousand dollars. Then, we tried to narrow it down and we took the amount of blueberries you got, you sold, the wages you paid and the farming materials and we said your net was 38 thousand dollars. That's what we did for the prototype. With the operational system we said this is based on one face of the antenna over one plot and if we went to four plots and we would multiply everything by four. There are many ways you figure it. One way is that you can take the State of Maine and look at the boundaries of the State of Maine and essentially look at the gold flow in and out of the State and take it on that basis or you can take the county or the township and figure it on that basis. You pick your way and you can do it. I'm not saying that this is the best, but all I can say is that we made a very sincere effort to try and assess. I will bow to the recognized experts in this. I just want to tell you that we gave it a try and this is what we came up with. If I could refine my estimates now and put this 33 cents down to 18 cents, what I understand is the going price this year and you would agree that 30 bushels is right, my figures were halfway correct, this 69 would go down to about 40 and this net yield would come down considerably less. That's all I want to say to address those two questions. The more fundamental thing I want to address is the process we are involved in. I think people have the feeling, when we came down here the last time, the Air Force is coming down here to tell us what they are going to do, they are going to look like they are going to listen to us and then they will go back and do what they want to do. Those of you who have seen this blue uniform up here more than I've been back in Back Boston, know that's not true. We have made commitments to your representatives and many of you. We're here to work out your concern--we're here to accommodate your concerns. We really have two constituents as public citizens. I am a representative, in a certain sense, of a corporate body of citizens of this country. I spend their money. This is their money that will be spent on this project and you're part of it. I have a certain responsibility to them. I also have a certain responsibility to you. I am coming to your community--I am in a way upsetting

your applecart. So, I have a responsibility to you. I've got to trade off between those two and that's not an easy job because you're all different. You all have different interests and what might make one of you happy will make the other one unhappy. The most difficult thing I have to do is to assess, what's the corporate community interest? I know there are individuals who are very strongly against the project because it affects them very personally, adversely. There are other individuals who it will affect equally positively, and then there are some it would affect considerably less. I think my basic feeling is, if I hear all of your views, is that these views all will reflect and we get that corporate community interest; I will believe the project and as you will see in the compromise I will present to you, is in your best interest. If you're happy with it, say you're happy with it. If you're unhappy, say you're unhappy. We've got to get your feeling. My personal feeling is that we've heard a lot on the negative side, but we haven't heard from individuals who are for it and think it's a good idea. We need to know because we gotta respond to your needs. The people in Washington have got to know because in the final analysis they've got to make the decision, but you have got to do the voting. So, I'd like to present to you a little bit of what's been going on the last week. The Air Force has come to you with this draft environmental statement and said this is our proposed site location. We would like to build on those particular plots of land. We think that that would best satisfy the interest of the whole corporate body and, at the time, thought it was in your interest, and clearly within. In the last two or three weeks we've recognized that you feel that this bout between the corporate interest and all of the citizens of the country and your own interest is tipped in favor of the whole country and that you came up on the short end. Well, we're at the point now where we have this proposal on the table in the environmental stages and we've been in discussion with numerous members of the community and feel that we've got to respond to your concern, and this is essentially how we've responded to your concern. We've come out with the following statement, the final statement will adjust the proposed site location. We have to take into account your concern. At this point in time, given the concern that is expressed by you, this is the way I would suggest or propose to readjust those site locations. The ones you saw in black up here before were the preferred sites. The ones you see in red is what I would call the compromises that we think bring a better balance to the local interest and that of the corporate body. What have we done? As you will recall, from the last meeting, it was brought to our attention that this particular parcel of land is probably one of the most outstanding pieces of blueberry land in the state. In addition, it has tremendous potential in the future because of the ability to, sometime in the future, to be irrigated from Montegail Pond. We understand and what we propose to do is to take the site that we were going to build there, the antenna phase, and move it from there up into this area here. As you can see, we put part of it over here. We tried to put it as far north as we can before we get into the rough land to keep off some of those blueberry lands up in this area. What else have we done? At this site here, we've got essentially the same. The difference in acreage that you see is that this is a 500-acre piece of land and we feel that 300 to 340, in that neighborhood, is the maximum acreage of land that we will actually need to build the antenna phase. This will allow the prospective contractors all the flexibility

they can use. The maximum amount of what they will need is what you see in red. So, this is still in blueberry land, this is in blueberry land. This site here is no longer in blueberry land. I think "pretty barrens"--I think that is the term used--referred to that area. So, this is no longer in blueberry land. At the last meeting we had several suggestions of why don't you go to the bombing range and put one of the phases there. Well, the other one is out in the bombing range. So, we have moved one of the phases here. So, essentially we have given up this region--we have slightly rearranged up here and moved one into the bombing range. We had to do this rearrangement because the only way we could put one in the bombing range because of the particular contour was in this direction. That forced us to change the direction of the other two. Now, we think that this represents a fair compromise between the local interest and the interest of the corporate group. Clearly, this is going to cost more money. This is not our preferred site. We gave you our preferred site the first time. This cost more money, but we think we're willing to spend that money to accommodate your concern. I don't believe that we really can go any further in a compromise in this area. I think we've gone and come to a kind of brink point--I think we're there. I think if we had to go beyond this, I think we would have to re-evaluate the entire site. I show you this to indicate that we are willing--we are discussing it--and when you see the final environmental statement that we have changed our site location. What we need from you tonight is your comments on our proposed location, the ones we originally laid out, and then comments essentially on the acceptability of this compromise. Somehow, we've got a two-way street going. We put out one proposal on the table and you said you didn't like it. We think you were justified in your concern, so we modified it. We need to get your feedback. That's what we are asking for tonight. We are here to work with you and we want to be your neighbors. It's a two-way street. It's give and take. We don't think we can get the whole loaf. We've given up half of it, better than half, already. We don't think it's reasonable for us to ask the corporate group of all the citizens to go all the way. So, with that I will turn off. Thank you.

Maj Schmidt: All right, at this time we will have questions from the floor. If you would please raise your hand and wait for me to recognize you. Please identify yourself for the purpose of the record and try to speak loudly so that the reporter may record your comments and your questions. Is there anyone who would like to be recognized for the purpose of a question? Are there any questions at this time to be put to the representatives of the Air Force? Sit, would you please stand and state your name?

Mr. Carter: Q. Ralph I. Carter. What little I have to say -- I have land to sell, if you're interested.

Maj Schmidt: You have a question, sir?

Mr. Foster: (Robert H.) Q. My name is Robert Foster. I have one question, clarify. Would the barrens be closed -- the areas that aren't fenced in; would there be any restriction in the barrens other than the areas that are taken. Could you clarify that?

LtCol Hobgood: A. No. Nothing else will be closed, just the areas containing the antennas.

Maj Schmidt: Sir, would you rise and state your name, please?

Mr. Platt: Q. Alan Platt. There are a couple of clarifications I would like to ask about concerning the comments. The first one concerns something that Colonel Hobgood said--he suggested that after--only after the final document is completed that there will be a request for approval from Congress for acquiring the real estate. Does that mean that there will be no purchase of land options prior to completion of the final impact statement?

LtCol Stukel: A. There has been, at the transmitter site, the purchase, I believe, of one land option. A land option does not give us the right to purchase the land. Until we get Congressional approval we can option every piece of land in the State of Maine but until Congress approves it, we cannot exercise a single option. A land option thing is almost a funny story. This program was delayed -- to be previously implemented a year ago, and at that time we received authorization from Congress to spend some military construction money, which is used for the purchase of land. This particular money was to revert to the Federal Treasury if we did not obtain the land options-- by obtaining an option this reserves the money for this particular program. For that reason, in the month of August the Corps of Engineers went out to seek land options. They sought land options at the transmitter site and at the receiver site. We had some feedback, actually from Senator Muskie's office, saying, what are you doing, Mr. Air Force; it looks like you're going too fast. So, very late one night, I called the Corps of Engineers and said cease all land options activity at the receiver site. We had one that had been signed by the other party who consummated it at the transmitter site. To my knowledge, there has been no land options signed and no activity on seeking it -- I forgot the date, at the receiver site.

Mr. Platt: Q. I want to pursue what you just said. Does that mean that you will ask Congress' approval before you go ahead and begin to purchase other land option sites?

LtCol Stukel: A. We are required by law to get Title 10 approval before DOD or the Air Force can purchase land. This requires us to go to Congress and get that approval. We cannot go to Congress and request approval to buy land until we have completed the environmental process. The earliest that we could go would be 30 days after the final statement is published. So, we estimate, if everything goes on track, we'll probably be going to Congress requesting permission to buy land in the month of January. That's when we will request it. If we got permission then, that will allow us to get the land purchase and allow us to go on contract by the first of March or the first of April. That's how the program is set up. That's assuming after we complete the environmental process and assuming Congress gives us permission. We will not seek any additional land options until we have the approval of Congress. This may boil down to Senator Muskie's approval to continue that process. We've ceased all those activities and they will stay ceased until we get a green light from Congress.

Mr. Platt: Q. On the chart that was shown earlier you were explaining about payroll in the area; I noticed that at no year was more than 1.5 million dollars due to be spent here, either by local residents or by outside residents moving into the area. And yet, as I understand it, you are asking Congress for 10 million dollars per year. I'd like to ask would that amount, in the next three or four years on an annual basis -- where is the rest of the money going, and is it possible to do some of the work for the rest of the money, in this area, rather than contract it out to California, Mass., or whatever?

LtCol Stukel: A. All I talked to you was payrolls that would be spent in this area. I did not address equipment; I did not address construction materials and other things. Quite frankly, we, at the present time, we, putting a request or proposal out to industry, I believe according to -- I believe it seven major firms were in the competition or requested that they be part of it. Now, that went out on the 23rd of July or 25th of July, I believe. So, these are major firms and none of which, to my knowledge, has a major operation in the State of Maine. They are the top electronic firms in the country. From these firms one of these firms will be selected and I'm confident that we will have several layers of subcontractors, typically a major firm will have a major guy who does construction and other guys and then the next year there will be another. Now, I can't trace down how we anticipate how we will go down to these years. I do know that the in the local area, the construction firms, who I will think would handle all the construction that has to be done on this program. I can't say that the prime contractor will select that particular firm. They may--it seems reasonable to me. That's a decision they will have to make.

so all I can say is, this is payroll. I know there will be considerable other money spent. You've got to build a building. You've got to haul some men in from Syracuse, New York, or Washington, D.C. There are things that are going to be purchased locally, but we have to trace several types of things down. So, I think you will find considerably more than 1.5 will be spent in Maine and in the local area, but I can't give you a hard number.

Mr. Platt: Q. It's not uncommon for certain Federal contracts or the Federal Government to encourage contractors to spend an increasing amount of money in the local area in installations cost. Do you have any plans to take positive steps to encourage contractors to do that?

LtCol Stukel: A. Let me turn that question over to one of our people who could probably answer it better than I.

Mr. Rhodes: (Robert) A. we have not --

Maj Schmidt: A. Would you speak up, please?

Mr. Rhodes: A. we do not now, presently, have anything in the Request or Proposal that specifically requires a particular contractor to localize his business in this area. It does have a provision for encouraging major subcontractors to subcontract to small businesses.

Mr. Platt: Q. I just want to clarify something with Colonel Stukel. I think I got it. Quote, "I don't believe we can go beyond the point we've reached. We have reached a brink point" and then you continue on to say -- I want to clarify what you meant -- that certain kind of readjustments in the locations were required beyond the compromise plan you've outlined here that this would be beyond the brink point. Could you clarify your thinking about that?

LtCol Stukel: A. In this area, I've told these people before, is a real unique area. You just don't find flat area in the State of Maine. Our costs go up for two reasons. One is that you get off the relatively short flat area and you have to grade it, and the phase that you build the antenna on has to be essentially flat or tilted in a slight direction with the antenna, so we need very flat land. As you move off of flat land, our costs go up rapidly. For example, if you have a piece of land that you have a difference in one foot between the two ends, you have to readjust them and it would cost over a quarter of a million dollars to readjust that over a plot of 400 acres. So, we get off of flat land and our cost will rise very, very rapidly. So that's why, in another way, our cost will go up is because we will have to separate these four phases that we are talking about into four different squares. Our cost goes up because we would have to bring back towards the central point on the date. So, our cost rises when we get off of flat land and we have looked in this area, we've looked at many potential sites around the pond where we could put one phase out and one phase in. We think if we were to push out into this area any other way our cost

would go up so rapidly that we would almost be forced to look for a different area. The uniqueness and special quality in this area would be lost to the point where we would probably have to go to a different area. So, in terms of this area, which is very, very special to us, (1) because it's flat, (2) because it's close to Bucks Harbor and that facility is phasing out, and yet we still have to worry about the cost. And we think that we're reaching that point. Whereas, if we had to push another one of these phases out to less desirable land our cost would go up so much that we would have to take a look at a couple of other areas.

Maj. Elliott: Q. The intent of my question really concerns this area. If that's the thinking of the Air Force, then it becomes a question as to what purpose the program, the public hearings serve beyond our present thinking because if, in fact, there are suggestions tonight, between now and September 23rd, for further adjustments and you're suggesting that we don't really have much flexibility in making any further adjustments of the locations if the system is to be put in in this area.

1st Col. Stukel: A. There is another area, the Sam Hill Barrens, which is about six miles north. Quite frankly, we've reached a point, the Sam Hill Barrens is an area - one of the optional sights we were looking at. When you reach the point where you're going across from this area, then that becomes, I think, the preferred site for the prototype system, and that, frankly, will be the next place. Or perhaps there are some more site adjustments we can make. I think we are very close to that edge where we can't adjust much more here and we'd just kind of take another step. It would be the same thing.

Maj. Schmidt: Is there anybody else who would like to be recognized?

1st Col. Stukel: I'd just like to continue on, one small step, the Sam Hill Barrens area is a very flat area. It's not nearly as desirable as this one. Coming out of the Sam Hill Barrens it takes you two hops to get to Bucks Harbor. Our communication cost would go up, then you get into the trade-off and the trade-off would be Bucks Harbor and Brunswick. It's not such a clear-cut case because the communications link would be larger and longer. So, clearly, this is our preferred area. We have no desire to go to them. I think we're approaching the decision point on this.

Maj. Schmidt: Any further questions from the floor? Yes, sir, would you state your name?

Mr. Miller: My name is Otto Miller.

Maj. Schmidt: Would you try to speak up, please? Would you come up --

Mr. Miller: Q. My name is Otto Miller and I'd like to ask Colonel Stukel why, in the Environmental Impact Statement, talks about 1800 acres and then when he started talking about taking

property since he started talking 1200. What happened to the other 500 acres?

LtCol Stukel: A. Very simple. When we published the initial environmental statement, we put in there considerably larger area than would be required for any conceivable design. We wanted to allow the prime contractor the ability to adjust the location of the particular antenna within that space. We never needed the whole thing in the sense that we were going to use it all. We wanted to give him the flexibility of putting it in there whatever best suited him. All we've done now to clarify more to you the exact amount we need -- as we said, we're just going to buy what we need. And that's how you get from 18 to 1200.

Major Schmidt: Does anyone else have any question? Would you please give your name?

Mr. Bouwens: Q. Of the four sites shaded in red on your graph--specific areas-- are all sites indicated where the line would be or is this something you sort of done on paper?

LtCol Stukel: A. Jim Mansfield and I spent more time in the Barrens than anyone else. Yes, we could have a surveyor come out and lay out these plots of land. We're at that point, so they're clearly defined. We have not gone out and put stakes in the ground and said, you know, between these two stakes and those two stakes. We haven't done this on the ground. We could have a man come out and do this for a considerable piece of money--he'd be willing to do that.

Mr. Bouwens: Q. I mean, if somebody said this was on my land, would you know, can you say--

LtCol Stukel: A. Yes, yes.

Major Schmidt: Are there any further questions? Would you please give your name?

Mr. Stewart: Q. Charles A. Stewart Jr. Colonel Stukel, the gentleman over here quoted you as saying I feel as though we have gone as far as we could, now we have to move out in the area. Do you consider out of the area from the Montegail area to the barrens, the Sam Hill Barrens, or do you consider going out of the area going to--not covering the Barrens, but going on out?

LtCol Stukel: A. No, I mean out of the Montegail area -- out of the area does include going to Sam Hill Barrens.

Mr. Stewart: Q. I have one question. I'm very glad to hear you refer to using the Bucks Harbor facility. Can you add why this was not considered before -- why it wasn't mentioned in the history of the impact when you mentioned Topsham, Loring, and so forth?

LtCol Stukel: A. The decision on Bucks Harbor falls under the area of the Air Defense Command. Major Hoff, who runs the site over there knows that this was a very, very recent decision. All the plans, to my knowledge, on the exact phase date

of Bucks Harbor, is not known now. This is something that developed very, very recently. Recently being, I would say, since late in June. So this is recent--a recent decision, so recent that it isn't completely worked out. It is part of, essentially, turning over to FAA more of these profile radar around the country. So, to answer your question, it was not known then that this was going on--the phase out.

Mr. Stewart: Q. My question wasn't the phasing out of Bucks Harbor, but why is it that in the impact statement Bucks Harbor was not mentioned, but Loring was, and Topsham, and so forth?

LtCol Stukel: A. When Bucks Harbor was being used as it is used today. We would be coming in to use that base and bring in an additional 110 people, then we would have to essentially expand all the facilities there, and make 27 units of base housing for the military. We had to build new base housing for them. For the airmen in the dorm, we would have to build new dorms, we would have to expand the mess hall. Essentially, we had to double the size of the facility. We had to do all of this. Whereas, with Brunswick, we had a little more favorable situation and we wouldn't require so much building. That's why it was not considered at that time to add onto Bucks Harbor. Does that answer your question?

Mr. Stewart: Q. Partly, Colonel, but I recall, direct from the impact statement, you considered Caribou because of its proximity to Loring and so forth and so on.

LtCol Stukel: A. Loring is a very big air base. You've got much more flexibility. If you've been down to Bucks Harbor, and I'm sure you have, there isn't much there, really.

Sir Schmidt: Yes, sir, would you stand and give your name for the record?

Mr. Ismail: Q. Mr. A. Ismail. There is discrepancies in the information just presented and the information in the environmental impact statement. You just indicated that we had 110 people in the operational site. The environmental impact statement lists 50 people at the operational site. You also indicated a different number of people at the transmitter site. Could you sort of brief us on this, what brings about the differences, and what are the figures you are considering? Thank you.

LtCol Stukel: A. The difference between the environmental statement and the figures I presented is the difference between the technical people and the nontechnical people. When the statement was written--we're talking in terms of, for example, at the operational site, how many scope operators you will need, how many electronic technicians you will need, this kind of thing. For example, on this system we believe we will have about 10 scopes. This means you've got to have 10 guys, three shifts, 7 days a week looking at scopes. The normal figure we use when we go three shifts, taking into account vacations, is 5 times. So

we will need, essentially, 50 scope operators for this system, if we have 10 scopes. We might have 8 scopes. What you see in the environmental statement contains essentially the technical kinds of skills. We didn't consider in there things like the site guards--I've got a complete breakdown for the receiver site and I can tell you the kinds of people who are going to be out there. The environmental statement didn't include people like secretaries, maintenance people, security guards, people to keep the roads open, to mow under the antenna, this kind of thing. It addresses technical people. When we update the environmental statement when the final one comes out, what you will see reflected is the numbers that are involved in here. We will put the technical and the nontechnical in to give you a more accurate of the impact on the area.

Maj Schmidt: Sir, would you please stand and give your name for the record?

Mr. Stewart: Q. Bob Stewart. Colonel Stukel, if you were to go to Sam Hill Barrens, would you anticipate any negative economic impact?

LtCol Stukel: A. Well, don't ask me to clarify. We were surprised, quite frankly, when we were up there quite recently at the amount of growth that was there. We had been there before a couple of years ago with aerial photographers, and so forth, and there wasn't very much growth there, but you go out there now and you see trees of considerable size. I, quite frankly, can't clarify for you the economic value of those trees. I only know how to do that with blueberries. I really can't assess. I'd have to leave that up to the tree experts--I really can't say; there would be some, but I really can't say.

Mr. Stewart: Q. There is no blueberry land up there at the present and the trees as a problem, as you say, is very, very small.

LtCol Stukel: A. They are not as small as I thought they'd be.

Maj Schmidt: Are there any further questions from the floor? All right, if there are no questions -- yes, sir, state your name for the record?

Mr. Look: Q. Dean Look. I address this to Colonel Stukel. When you were here last time we asked you a question in regard to education and you said you'd look into it. I'd like to ask you a two part question, if I may. Who will pay tuitions subsidiary, or whatever, for military personnel students, and have you read in the Bangor Daily in the last two days in regards to Loring Air Force Base?

LtCol Stukel: A. I pick them all up. I have read with respect to Loring Air Force Base. Fortunately, I have two guys here tonight that I can fall back on. Major Schmidt is handling the problem at Loring and Major Hoff is handling the problem down at Bucks Harbor. I don't know the answer to who is going to pay. Clearly, it seems to me

to be difficulties between the State and the Federal government. I've seen these things come up in the past and I recall we had one in Omaha a couple of years ago and that's SAC Headquarters--it's a SAC Air Force Base in Omaha, and all the schools shut down and then rational people got together and worked it out. I suspect that these - the current flair-up in Limestone and the difficulty down at Bucks Harbor will be worked out. I don't know the answer. Every other time this has come up it's been worked out. Now if you have particular questions, things you really want to pinpoint -- I don't know if he will answer them in his current role tonight, but he is the expert on this and Major Hoff could probably help. I don't know the answer to your question, but I guess I'm confident it will be worked out. Now, from this system you've got to remember about this system, the prototype is a system that has got to go on and on to the late 70's. During that period of time there won't be any category A's in there. You'll see a lot of B's, but I don't think I'll have my kids up here. So, you won't see the category A type problem with respect to this system during this decade. If the problem is still around in the next decade, you will see it and it will be the same magnitude of problems they anticipate, that you currently have in Bucks Harbor. Major Hoff can give you information on that. I am confident rational men will work this out and we will come out of this. In the meantime, we'll have a lot of ups and downs - a lot of people worrying. I've never known one of these cases where the kids didn't get to go to school and the local taxpayers weren't treated fairly. That's really all I can say.

Maj Schmidt:

Yes, sir, would you stand and state your name?

I-1 Mr. Franklin:

Thomas Franklin. It doesn't matter who answers it, but I've been hearing you talk comments about plantations--the Air Force is going to build over on the only public access that we have to Pretty Pond at that time, and I know that you're going to be shifting one of those antennas. It's quite close to Pretty Pond. Would Pretty Pond be taken over by the Air Force and the access, the public access, be removed from this or any other pond within the area?

Mr. Mansfield: A. I haven't looked in great detail to, what is it "Pretty Pond"? Our policy has been, and I expect it will continue--we will not interfere with public access to any recreational area, whether it be Montegail Pond or Pretty Pond. I'd have to look at it, but if there is an access road that we would intercept, we would provide for a replacement for that road.

Maj Schmidt:

Sir, would you please stand and state your name for the record?

Mr. Stewart:

Q. Charles A. Stewart, Jr. Colonel Stukel, I am very confused and maybe someone else is confused. At our previous meeting you indicated, or I gathered it as a

fact, that you could not move those sites. Now, two weeks later, you say you could put one site on an old bombing range that at the previous meeting you said you couldn't use at all. Now, you say you could use the Sam Hill Barren, which previously you could not use, and you've also gone on to say that if you couldn't use those locations you would have to leave the area, but you define that now as not moving very far away. So, with all this, I don't think it's anyone who objects to the installation. I believe that everyone feels that the installation is fine but the location is wrong. So, it comes right down to moving it and what do we have to do to push you over the edge and get you up there.

LtCol Stukel: A. The answer to the question is that we wouldn't have more taxes. Seriously, there are many areas, ~~and~~ ~~and~~ ~~and~~ ~~and~~ into, if the corporate body ~~and~~ ~~and~~ ~~and~~ ~~and~~ are willing to pick up the price tag, and that's really what we're talking about -- is the cost curb. In terms of as you go to less desirable land that is less flat, the cost goes up. That's what we're really talking about. The question is, who pays the price and how is that price distributed? To be given an absolute flat piece of land like this, like this floor, I can build the antenna cheaper than I can if you make me put it on the side of a mountain. And there is some trade-off in there. Let's face it, we're negotiating this issue and I've heard some people stand up in this room, owners who said they would never sell a square inch. They're negotiating. I'm negotiating. We're looking for that common ground where -- where we can satisfy everyone's concern, but never everybody's concern to the fullest extent. That's really what it is. So we've indicated a willingness to adjust, but I have to make a subjective decision that by moving a little further to recalculating the cost and seeing how many county lines I'm going to cross -- but that's just too much of a price tag to pass on the corporate group. When I dig in my heels a little bit and talk to you a little longer and try to convince you that perhaps, if I stop there, the balance between what you're giving up, your sacrifices and the sacrifices of the corporate group -- it's unreasonable and that's what we're really trying to arrive at. So I do have flexibility. The bounds of my flexibility -- they're not clearly defined. In the final analysis your elected representatives of you are going to be involved in this decision. The elected representatives of the citizens of Maine and the elected representatives of the citizens of Utah, you name it. They are all going to have a final say on this. What we are trying to do is move in a position where we make the job a little easier. To help them try to feel out this common ground. They've got to go through the same process that we're going through. They can't give the whole loaf to the local citizens. Senator McClellan wouldn't like that - if Senator Muskie's citizens got everything and the rest of the taxpayers picked up the whole thing. So this is some kind of combination that's worked down. We're trying to help you find that common ground.

Maj Schmidt: I believe the gentleman here has something to say.

I-2 Mr. Bushey: Q. Donald Bushey. On the trade-off, on the cost particularly, can you give us some estimate of what it would cost or what it might cost if we have to transmit from your preferred area to either of the several configurations you have on the sites, to Topsham, versus the places you showed us tonight on the blue-red-brown marks, labeled A. B. C. D to Bucks Harbor and from the Sam Hill Barrens to Bucks Harbor-- can you give us--you said it would be two jumps, I believe you said, to Bucks Harbor from Sam Hill Barrens versus -- and the two of those compared to Topsham?

LtCol Stukel: A. I couldn't off the top of my head tonight give you that. Quite frankly, I just don't have them.

Mr. Bushey: Q. From Sam Hill Barrens to Bucks Harbor--probable from Montegail Pond to Topsham.

LtCol Stukel: A. No, I would think coming from Sam Hill to Bucks Harbor would be better than going to Topsham. There are other trade-offs, I've got other trade-offs to make, for example, at Topsham I do have a building down there that has 20 thousand square feet. I don't have to build a building at Topsham, but I would have to build a building at Bucks Harbor. So, by that example, I'm just saying that there are several different things that enter in the final decision.

Mr. Bushey: Q. Would it reasonably be somewhat less in either case to Sam Hill Barrens to Topsham?

LtCol Stukel: A. Solely for communications, yes.

Maj Schmidt: Are there any further questions? Yes, sir?

Mr. Dollum: Q. Bob Dollum. When you talk about going to Sam Hill Barrens, are you talking about putting four sites at Sam Hill Barrens, or two sites at Sam Hill Barrens and two sites on the other side and a possible bridging of the Machias River?

LtCol Stukel: A. Sam Hill Barrens is not large enough to accommodate the four faces, period. There is no way we can put all four of them in there, so we would have to split the sites. In splitting the sites we would have to leave a couple of antennas, a couple of antenna faces somewhere north of Montegail. We have to really settle on those because, quite frankly, we think the compromise we presented tonight will be acceptable by the people here, but we would be forced to be on both sides of the river. We would bridge -- I would think we would have to bridge.

Maj Schmidt: Are there any further questions? Yes, sir, would you stand and identify yourself for the record?

I-3 Mr. Bouwens: Q. Don Bouwens. Do you mean -- I know you couldn't give us specific figures on estimates -- can you give any

approximation, no matter how vague, on these costs? Could you say that the compromise plan that you offered tonight is going to be twice as expensive as far as land preparations as the preferred site two weeks ago? Could you say that the Sam Hill Barrens proposal will be twice as expensive as the "red" proposal, anything like that?

LtCol Stukel: A. I'll probably get hung on figures later on. I think I'm being very conservative in saying that the land - the land preparation cost - if we moved off the preferred site included in the environmental statement and go to the option that I presented here tonight - now we're only talking site preparation cost, getting the land ready to build on - the expenses of building essentially remains the same, unless you separate the sites. We would probably go by a factor of three or four. going--we move on the bombing range in the area like the Petty -- is it Petty or Pretty -- Petty-Pretty Barrens area, clearly those are rougher--rougher lands than the preferred site. When you go in the Montegail Pond area the two phases--Sam Hill Barrens area, the two phases that would go into the Barrens would be more expensive for site preparation than the two phases in the Montegail Pond area. The Sam Hill Barrens -- you aren't quite as flat up there. You don't have large expanses of land. So you are talking a significant increase in site preparation cost when you move away from the preferred site.

Maj Schmidt: Mr. Stewart, could you hold your question for a moment? I would like to have a ten minute recess to let my court reporter rest for a little bit. So we will take a ten minute recess and reconvene at twenty-five past the hour.

The hearing recessed at 2115 hours.

The hearing was reopened at 2125 hours.

Maj. Schmidt:

At this time, I will reopen the hearing and reopen the floor to questions. I believe Mr. Stewart indicated he had a question.

Mr. Stewart:

Q. Bob Stewart. Mr. Mansfield, is it? You were referring, Colonel Stukel was referring the point of the jumps in moving, say, from the original site--I think the first site he showed was four towers, four antenna sites right around Montegail Pond and then saying that it might be four times more to get up to the alternate site which is apparently as far as you feel you can go. Now, what we are relating this to--what I'd like to know--I would like to know what you originally allocated for site preparation and your original operations site, which would be the four, and then if you can say after that, let's say with a hundred thousand dollars, let's say it was a million dollars, and then you say, it's going to cost four times as much to go up to Sam Hill barrens, at least we know what you're talking about. That's something to relate to.

Mr. Mansfield:

A. I don't remember--we're talking about all four phases. I can't remember what I had because we're talking about two fiscal years and we're going up to fiscal year 1979, that's the estimate I have to compare, based on four antennas. I can't honestly recall what I have as far as site preparation. Whereas the prototype--the preferred site location for one phase we're talking in terms of figures of two hundred thousand dollars. The only thing I can compare that to is Sam Hill barrens, I didn't make the estimate, but the estimate has been prepared and I'm aware of it. Based on a smaller antenna, not that large, two thousand foot, 500-foot antenna for the Sam Hill barrens cost about a million dollars. So, we're talking between 200 thousand and a million, and we're talking in terms of 500 feet against 2000 plus for the larger antenna, which is another 25 hundred foot length and 700 foot deep. There is a large difference, but I couldn't stand behind these figures until I have more information on the Sam Hill barrens, because the information I have on Sam Hill barrens, even though we have photographs, they are not aerial photographs in the sense that we could provide the detailed information I need. The photographs taken from the air would give you a picture of the place, so there is a difference as to how you can evaluate it. Looking at the photography from the quadrangular sheet, comparing them with the photographs of the barrens that we have, there is going to have to be some grading done on the east face in the southeast corner on the first site of the antenna. The other difficulties of that particular location is it doesn't give us much latitude and that's something we have to have. It gives me basically 310 acres with somewhat--but it doesn't give me any latitude that I may have to have.

Mr. Schmidt: Are there any other questions? Sir, would you stand and please identify yourself?

Mr. Look: Q. Dean Look. Is there a possibility that this radar system will not work?

Lt Col Stukel: A. This radar system is new--is new. It's new in the sense that it is located in a slightly more difficult area than existing OTH Radar. Right now in this country, there exists an OTH Radar in Upstate New York and there exists an OTH Radar on the west coast and there exists one in Virginia. Each of these three radars, especially the one in California and the one in Virginia are looking in areas that don't infringe on this aurora--you know, this magnetic duct that goes around the top of the world. These radars have demonstrated to work very well from that area. So, there is no doubt in my mind the OTH concept working when you are away from this high magnetic plasma. When you get into that area, there is some question about the reliability of the propagation of the electromagnetic signal. That's the reason the prototype is being built, because there is some question. Those of us here--you'd expect us to be confident it would work--we are, but the fact that we're doing a prototype indicates that there is some question whether it will work or not in that very, very tough region. So, I will say that we have every reason to believe that it would, but we're not absolutely sure and that's why we're building this prototype, which is a first class experimental radar looking into that aurora.

Mr. Look: Q. Is there some reason why you have to build this in the State of Maine, rather than the State of Washington--the prototype?

Lt Col Hobgood: A. I'd like to take the first part of that.

Lt Col Stukel: While you're taking the first part, why not take the second part?

Lt Col Hobgood: A. One of the major reasons has to do with the large volume of traffic coming in--commercial traffic coming into the northeast corridor of the United States. If you look at the map, you would see that the traffic moving from Europe, I can't give you any figure on it off the top of my head, is so much greater than the traffic coming in from the northwest that provides, one might say, targets of opportunity during the test period. We're blessed--we don't have to spend money on aircraft to send them up there to see if we can detect them properly. As the result of both areas, would provide the location to look at or a scan at the aurora, we have all the aircraft one would ever want to use as test aircraft in the northeast not so in the west.

Lt Col Stukel: A. Now, let me get the other half. That's part of the reason. That's not the entire reason. One of the other difficulties we have with this type of radar is looking into the face of other transmitters. When you look in a northeasterly direction, you're looking--part of it is infringing upon the radiation coming out of Europe. You have all kinds of transmitters in Europe. One of the difficulties you have with a radar of this kind is an interference problem, which you get especially at night. So, if we looked out at Washington, you're looking into Asia where you don't have this high density of transmitters to worry about. So, if we were to go there we wouldn't be really putting this radar to its toughest test. Here we've got the auroral zone, we've got the high density of other transmitters coming out of the Europe environment, and we also have this high density of other aircraft. One other thing this cotton-picking radar has to have is the capability to handle many aircraft. When you're expecting someone to come at you, you don't expect them to come at you with one bomber. In this particular area, as Bill said, there are plenty of targets so we can test out the capability of this system to handle many targets simultaneously.

Mr. Look:

Q. You are saying, in the event that the transmission from a different type of radar system will interfere with this one?

Lt Col Stukel: A.

You have to essentially select the frequency that you use going out to minimize the interference from other long-range transmitters.

I-4

Mr. Look:

Q. If I may, just one other question, perhaps directed at Colonel Hobgood: When you were here last, you indicated some general reference to a time period when this might be obsolete, and perhaps this is a technical question and you may not be able to answer, when will it become obsolete and why?

Lt Col Hobgood: A.

I can't say--I don't think I would use that expression, obsolete. We referred to it as a 20-year life. In other words, we anticipate that the need for the system will expand over a period of 20 years. As a result, we have to engineer this into the system when we first acquire it, such that it can last that long. Everything from the building structures, the antenna structures and equipment themselves, assuming that we will have to man it and keep it running, provide for the repair of parts, the replacement of parts for a 20-year period. As far as obsolescence, certainly that would be the case why one system would die eventually. I guess obsolescence would come because the need would no longer exist or it has been replaced by a different system.

Mr. Look: Q. You don't have any idea what that system might be at this time?

Lt Col Hobgood: A. No, I don't.

Maj Schmidt: Yes, sir, would you stand and state your name and try to speak loudly?

Mr. Worchester: Q. Skip Worchester. I apologize--I signed one of your sheets and said I wasn't going to speak. Two questions: first, the roads going into these--the existing roads which will be going directly into these facilities--is there going to be access through and beyond these systems?

Mr. Mansfield: A. There will be access through--around the perimeter of the installation

Mr. Worchester: Q. Then, you intend to build a road around it, the perimeter?

Mr. Mansfield: A. Any road, any place that we intercept an existing road, we will replace it by an equal road.

Mr. Worchester: Q. The second question: I'm a little confused in the sense, this radar, the main reason for having flat land is what, to build the towers?

Lt Col Hobgood: A. No, not towers. The antenna structure itself, the anticipated, we don't know exactly what antenna structure will be used. The prospective contractors are at this time preparing the designs they will offer. Anticipating the acreage that might be required, we've anticipated that that antenna which requires the most acreage will indeed be submitted to us for evaluation, that being the beverage type antenna that covers a very large flat area. I hope that answers your question.

Maj Schmidt: Are there any further questions?

Lt Col Stukel: A. May I just make that answer a little more complete? We do not know today, we will not know until we receive on the 23rd of October, the contractors' design proposal. He has a range of different technology, different antenna designs that he can use. We have not expressed a preference for any one of these particular antenna designs. We have given him what we call a performance specification. You build a system that does the following: detect aircraft certain distances, certain resolutions, these kinds of things. He has to determine, using his technical knowhow what is the best technical solution to that problem. We have to insure that we don't limit him in his choice of a technical solution to that problem, to a particular antenna design. This might prohibit him from achieving that performance. So, we have

to prepare to acquire a piece of land that he can build on any kind of conceivable antenna design that he might use. Some of these antenna designs use the earth itself as part of the antenna itself. Some of these antenna designs require a flat piece of land for that use, and we have to acquire this relatively large parcel of land so we don't limit him. He has to give us, based on his technical knowledge, what he thinks will do the job. We are not going to dictate that to him. That's his responsibility. When these proposals come in, I anticipate that we'll receive proposals on several different kinds of antennas. We don't anticipate that all the contractors will come in with the same one. It's our job, and the Air Force goes through a very, very detailed analysis process with these responses from various contractors, to determine which in looking at the overall system, including the schedules, the technical performance, and their cost, weigh the design that would best satisfy the requirement. Based upon that, we'll select one of the contractors. He may be the one, because of the technical requirements, need a very long piece of land, essentially six thousand feet long. Each antenna design uses different depths of land. That's the unknown. When we finally select one, we'll know exactly what it will be. What we're here telling you tonight is the maximum, so that we can put in there, if he needs to have it to accomplish his requirement using that particular antenna design, we can give him the land. We will only purchase the land that is needed. If it turns out that we have a long--we have to get a long--if it's a very narrow antenna and it just takes 50 acres in the final analysis, that's what we will purchase. If it takes 310 acres, that's what we will purchase.

Mr. Stewart: Q. Charles A. Stewart, Junior. You mentioned that you're not absolutely sure of this installation and that's your reason for building a prototype, just to see if it's really going to work. Now, why not put that prototype on some unproductive land and see if it works and then proceed from there. Why pick out the best piece of land and put it on, when you're not absolutely sure it is going to work?

Col Stukel: A. Last--on the 27th of August, when we were here, I would have agreed with you that we have probably picked out the best piece of land. The prototype has to face in a particular direction and, as you saw from those maps, it's going to go in sort of a northeasterly direction and I would have agreed with you at that time that we were on that piece of land. We have said in our compromise that we were moving off of that land. We have to build a prototype--we're almost certain that it will be successful. We will go from the prototype to the operational and when we build the prototype, we want to build it so that face becomes one part of the operational system.

You might have to do something to modify it. When we pick out the piece of land for the prototype, we want to simultaneously try to minimize the cost for the operational system. The other thing is we would hate to come in here and relate to the prototype, and say we're just going to build a prototype. We've get our foot in the door and when we come back three years later and say we've got the prototype phase out, now we want three more. We've got to address the whole thing here now.

Maj Schmidt: I believe the gentleman over there.

Mr. Mallory: Q. Bob Mallory. My question is this: If I'm told by you that these antennas would be anywhere from four feet to 250 feet high, correct?

Lt Col Stukel: A. Yes, sir.

Mr. Mallory: Q. Does the height of the antenna then change the land needed?

Lt Col Stukel: A. Essentially, we have two ways to build an antenna. One is to build it on the ground and take up a lot of the land if you build it low. Or, you can go high up in the air and use less land. Either way you go, whether you go with the low or the high one, you'll still need it 6000 feet long. If you go with the billboard antenna, which is the high one, it sticks a long ways up in the air--it's very narrow.

Mr. Mallory: Q. The high one doesn't have quite as much land requirements? You don't use the land to bounce you off?

Lt Col Stukel: A. The land, variations on the land will more affect the construction cost of the antenna.

Mr. Mallory: Q. Why wasn't the antenna selected before the site?

Lt Col Stukel: A. You have two simultaneous processes going on. Now, if we went ahead right now and didn't go through the site selection process--if we went ahead and selected the contractor to build the site--we couldn't start any of the work because we didn't have the land. So, we put him in a very, very unfavorable situation where he has to keep his team together, his people who are going to do this job--he pulls them all together to accomplish his design, to accomplish his proposal. He spends a considerable amount of money, and many of the contractors here tonight will give you some idea of that statement--so he's spending right now a considerable amount of money. If we told him, go ahead--come in with your proposals, we'll select the best one, then, we'll go out and buy the land. We would essentially tell him, stop, wait a year, while we go through this process and then proceed. We would put him in a

terrible position in terms of cost and in terms of holding his good people together. So, that's why these trucks go on simultaneously and this is normal in this type of development effort.

Major Schmidt: Sir?

Mr. Wyman: Q. I'm Hollis Wyman, Representative of this District in the Maine State Senate, and I'm violently opposed to this. Like Mr. Stewart, I'm confused. Your budget apparently cost us 80 billion dollars, yet you're talking about millions here, and it seems to me that you're asking us to contribute more than our proportional part of this defense budget. This land, as you said, is unique and there are two pieces of land like this that are suitable for mechanization and development of blueberry land because it's going more and more toward mechanization. On top of everything else, the ocean is moving in. They tell us what we've got to have and what we've got to do, which makes another problem. It makes a large piece of land like that more desirable. Now, a short time ago, you said that "this is land that we are going to build on." Now, you said that. I wrote it down that you said it, and as you said it, it made me think I had the privilege of being in Leningrad or Moscow, and they don't have those problems over there. Now, I wonder if we really have a problem. This is where you're going to build and we don't have anything to say about it.

Lt Col Stukel: A. I'd gladly answer that one.

Mr. Wyman: Q. They don't have those problems over there. I wrote this down as you said it, too. You said, "this is where we are going to build."

Lt Col Stukel: A. I'm sure, in my standing up here, as I have for probably fifteen hours, that you can take out of context sometime, a slip on my part where I used the wrong words. If I really meant to come in here and grab this land, then I wouldn't have spent half of the last three weeks in this part of the country. I wouldn't have come in here tonight and offered a compromise to you which moves us out of more than half of the blueberry land which we had originally proposed to be in. I would figure--

Mr. Wyman: Q. I didn't mean to take it out of context.

Lt Col Stukel: A. But you did.

Mr. Wyman: Q. I wrote it down.

Lt Col Stukel: A. OK, I'm sure that you could always find a missstatement or something to take out of context. I think all of you here realize what is going on here. We're trying to work out a combination with you. That's it.

Mr. Wyman: Q. The last time you were here, this is a repeat, you said, now, we had something like 200 thousand acres of blueberry land and you were taking a small percentage. So, I asked you where you got that information and you waved a booklet and pamphlet issued by the Washington County Chamber of Commerce, and you said that was where you got your information. So, it disturbs me that our defense is based on pamphlets issued by Chamber of Commerce. So, it just bothers me there are so many questions you can't answer that was based on information by a Chamber of Commerce. You can't tell us about the schooling. When I was here last time, there were a good many questions asked you that were answered very vaguely because you don't know and that disturbs me on the basis upon the many questions you can't answer.

Lt Col Stukel: A. In the future, I'll never believe a Chamber of Commerce. Now, we have been working with your State people and they've prepared a paper for us on the number of acres of blueberry production now. All I can do now is apologize for accepting those figures. I don't think we've evaded any questions. I'm sure there are questions we can't absolutely answer. You guess now we don't control the world. Now, the school issue is a very good one. No one has given Major Hoff an answer as to what is going to happen a month from now. They don't know about it up in Limestone. I surely can't stand up here and tell you I have the answer for 1980. I'd be a fool. I think we've shown sincere effort and demonstrations of good faith--a willingness to go a long, long way because we want to be your neighbors.

Maj Schmidt: Are there any further questions? Yes, ma'am, would you please stand and identify yourself for the record. Would you try to speak up so the reporter can hear you.

Lady Speaker: Q. I would like to know--

Maj Schmidt: Excuse me, could you step forward and--

Lady Speaker: Q. I would like to know--

Maj Schmidt: Your name? I'm sorry, could you just state your name and then ask your question?

Ms. Bedard: Q. Sally Bedard. I would like to know if there is going to be any construction underneath the soil, whether there is going to be any foundations and in the coming years, what is going to happen then? Will they be left there or destroyed or what?

Mr. Mansfield: A. The foundations will be those normally required for building. Depending on the antenna selected, I would have to say that would be the same situation.

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If the soil there is adequate at the frost depth to give us the kind of footing we would require. What will happen if the building, if the facility is all closed out in 20 years, I hate to refer to the foundations we looked at Bucks Harbor the other day that were put in sometime during the middle 50's, they were unsuccessful in trying to remove. Foundations of concrete are rather difficult to remove. I don't really want to get deeply involved in what will happen 20 years from now. I can't make commitment who will be responsible for the removal 20 years from now or that we will in fact remove them down to frost depth or just remove them at the surface. I couldn't answer that.

Maj Schmidt: Are there any further questions?

Mr. Look: Q. I apologize for bouncing up and down like a yoyo. Is the Air Force willing to return land that might not be necessary for these radar antenna sites if the contractor you choose designs the radar antenna of the, as you refer to, the high and narrow?

Lt Col Stukel: A. The Air Force will not purchase any land until they have decided on the contractor's design. If the contractor design selected requires 60 acres, 60 acres will be purchased. So, we don't go out and buy a parcel of land and then decide how much of it we will use. When we find out exactly what we will need, that's what we will buy. In the environmental process, what we are going through now, we have to specify maximums.

Maj Schmidt: Are there any further questions from the floor? Yes.

Mr. Stewart: Q. Bob Stewart. I'd like to just say one thing for your consideration in the future is we're directing ourselves in continuing how much land will be taken. I said this before and I'm very serious about it; I think we're not even considering how much the land is going to be rendered unusable because of this, aside from what the Air Force actually--because of this cut-off from access were made--may not cut off the accesses, but make it very difficult to and then make it economically unfeasible to operate. This is something we sort of avoided.

Maj Schmidt: Is your question, Mr. Stewart, whether or not the project would render inaccessible any portions of land?

Mr. Stewart: Q. Would render any portions of land--

Maj Schmidt: Inaccessible?

Mr. Stewart: Q. Not inaccessible, but economically unfeasible to operate?

Lt Col Stukel: A. I cannot say if there won't be some because of the way the draws of the streams cut through and the fact that we may be the square hand--there will not be rendered inaccessible. I can make a very firm commitment on the part of the Air Force that when we select a particular parcel of land that we will move it north or south to the maximum extent possible to absolutely minimize this break-up of parcels. I'm sure that there is going to be some rivers somewhere, maybe several, but I can tell you that when we move that parcel around, with the amount of land we've got to have--we will work with the landowners to minimize that kind of probability.

Maj Schmidt:

Are there any further questions? All right, at this time then, if there are no further questions, I will call statements from individuals who have indicated on the attendance slips that they wish to speak. If any of you have changed your minds, I will call your name and if you would please indicate that you no longer wish to speak, I would appreciate it, for the record. In addition, I might mention, at this time that five days will be permitted at the close of this hearing, to submit any written matters to me and I will furnish you with my address in my closing remarks. The first speaker, Mr. Alan Platt. Do you wish to address the hearing, sir?

Mr. Platt:

I would like to make one or two very brief comments.

Maj Schmidt:

I would ask that you please come up to the center so that the reporter can record your statement.

Mr. Platt:

As I indicated earlier, my name is Alan Platt, and I work for Senator Muskie. I would like to take this opportunity to say that Senator Muskie is in favor of this program and has indicated so on the Senate floor on several occasions. The Air Force well knows, though, he has followed the program closely in terms of its site location and construction, has offered legislation and it has been accepted that prohibits the spending of any money between now and the end of May 1975 for site acquisition or construction. In the next couple of weeks, or perhaps the next couple of months, there will be discussions pursuant to tonight's proposed compromise concerning feasibility of this, and I really want to take this opportunity to encourage any of you, really all of you who have specific ideas and interest concerning the proposed compromise, to let Senator Muskie know because he is in a position where he is in favor of the program and does believe that the program will potentially make a valuable contribution to the national defense. However, it is a question of locating the site, and he'll be looking to the people in this area for guidance as to how to proceed legislatively.

Maj Schmidt: Thank you, sir. Mr. James F. Connors. Mr. Connors, would you please come forward.

Mr. Connors: I'm here tonight representing the Land Use Regulation Commission and the Department of Conservation, and I really want it to be part of the record to let you know that we are listening to both the informational hearing and these public hearings and that we will formally present our opinions and statements to the Department of Conservation and, specifically, the Land Use Regulation Commission to these various projects proposed and we do, as you all know, have some form of jurisdiction here as to what has to be done and what not done, and I just want it to be on record that we do have.

Maj Schmidt: Dr. Ismail?

1-5 Dr. Ismail: Major General Schmidt, my name is Amr Ismail. I am the Assistant Professor of Horticulture and blueberry specialist for the University of Maine. The following statement was prepared in response to a request by the Maine Department of Agriculture. This statement is not intended to comment on the validity of the Over-The-Horizon Radar System proposed by the Air Force. It is intended to explore the anticipated effects of locating the receiver system on fifteen hundred acres of blueberry fields in Township 19 MD, Washington County and on the Maine Blueberry Industry. First, I will provide you and those who will be making the decision, with background information on the Maine Blueberry Industry and growing blueberries in the area as expressed by the Air Force as the preferred sites for the receiver in the draft of the environmental statement of July 1974. Maine is the only state in the United States with a sizeable commercial production of Lowbush Blueberries. Blueberries are commercially harvested from approximately 40,000 acres of native lowbush blueberry stands. Due to the cultural practices employed by Maine blueberry growers only 20,000 acres are harvested annually. Approximately 20,000 acres of the total lowbush blueberry fields are located in Washington County. About 10,000 of these acres are harvested annually. The largest concentrated areas of native lowbush blueberry fields are known as the "Blueberry Barrens" and are located in Townships 19, 24 and 25 - Columbia Falls area and the western barrens are located in Township 18, Deblois, Columbia and Cherryfield.

Harvesting of Maine lowbush blueberries dates back to the native Indians and records are available of commercial harvesting of this fruit from Washington County Blueberry Barrens for more than one hundred years. Practically all of Maine's lowbush blueberries are processed in the State. Crop failure or reduction in the crop size adversely influences the economics of the processing centers, towns and labor force. Crop success also affects these integrated parts of the Maine Blueberry Industry.

Production of Maine Lowbush Blueberries, while it may appear as a seasonal operation, provides for certain job opportunities that last for several months. A large blueberry enterprise would provide 8 months work opportunity in growing operations in the field. Packing and repacking of the blueberries provide year around employment to some factory workers.

The Maine Blueberry Industry has faced increasing competition from the highbush blueberry industry in Michigan, New Jersey and North Carolina. While the Maine lowbush blueberry is preferred and prized for processing purposes, the Maine Blueberry Industry has lost some ground in the national market because of fluctuation in production. A great production fluctuation does not provide for a stable market. Markets that are ... highbush blueberries or other fruits ... are processed cherries and apples are difficult to regain. A sizeable decrease in production potential would aggravate the problem of fluctuation in production and may have detrimental effects in the long run on the use of Maine lowbush blueberries.

With the continuing changes in the culture of lowbush blueberries, irrigation is becoming an increasingly important practice. Land with good native blueberry stands, easily accessible, without major obstacles (large rocks) that can be easily and economically irrigated provides the backbone of the Maine Lowbush Blueberry Industry.

At present, there are no economical commercial methods for establishing large acreages of lowbush blueberry fields. While research efforts in this area have made significant progress, many practical questions need to be answered before large scale commercial plantings of lowbush blueberry fields are a reality. When and if such fields are established, it will be several years before they are commercially productive.

Experience proved that native lowbush blueberry stands when neglected undergo changes in their floral composition. If cultural practices are discontinued, a steady decline in the blueberry productivity and increase in the population and size of competing species ensues. For example, four or five years of neglect may be accompanied by sufficient changes in the growth characteristics in the field to render it uneconomical for commercial production of lowbush blueberries. It may take four to six years and a considerable expense to bring this field back to economical production of berries. Discontinuation of cultural practices for 20 years, the stated life span of the receiver system, probably will result in changes in the flora that will make it uneconomical to reconvert the area to commercial production of native lowbush blueberries.

Because of the location of the Blueberry Barrens, climate, soil conditions, social traits and traditional skills of the inhabitants of the region, lowbush blueberries have proven to be the most adaptable and practical crop for this area. Lowbush blueberries have been commercially harvested and processed there for more than one hundred years. All present signs indicate that, if uninterrupted, the lowbush blueberries will continue to play a significant and important role in the economy of the people in Washington County and the State of Maine.

Management of lowbush blueberry fields has changed from casual gathering of wild berries by the native Indians to concentrated production efforts. Management practices presently employed include the use of herbicides for weed control, aerial application of fertilizers and pesticides, pruning, insect and disease control, the use of honey bees for pollination, and irrigation. Although the production of these berries on the barrens does not require a large amount of permanent labor force, the harvesting crew is usually in excess of fifteen hundred people. In addition, the stringing of the fields, winnowing the berries, hauling the fruit to the packing factory, and the cleaning and packing operations provide work opportunities for local residents and migrant workers. None of these operations require skilled labor. However, they provide jobs for people of all ages who have very little, if any, other work opportunities.

Residents of Washington County face chronic unemployment problems. In 1973 the unemployment rate of the civil labor force in Washington County ranged between 13.0 and 14.6 per cent in the months of January, February, March, April and May. The percentage dropped to 4.3 in August and 4.9 in September. In 1972 while the unemployment figures ranged between 10.2 and 15.6 per cent of the civil labor force for the months of January to May, it dropped to 4.1 and 3.8 per cent in August and September, respectively. Similar patterns were evident in the 1970 and 1971 statistics.

It is practically impossible to identify the exact number of workers who are involved in one way or another with the blueberry industry in Washington County. However, there is no denial that the blueberry industry accounts for considerable seasonal employment opportunities, particularly during the months of July, August and September.

After this background, now, I shall present anticipated effects of elimination of fifteen hundred acres of lowbush blueberry fields in Township 19 MD for the proposed Over-The-Horizon Radar System. Elimination of fifteen hundred acres of productive lowbush blueberry fields in Township 19 will have irreparable adverse

effects on the Maine Blueberry Industry, the economy of many residents of Washington County, and a leading food processing company. Revenues from local and State taxes will also be lost.

The land in question is considered to be well above average in production ability and with excellent potential for continued improved productivity. Such land is not easy or practical to replace for the production of native lowbush blueberries. Altering the present use of these fields to a radar receiving site will deprive the region of a natural resource that has provided income and beauty to the residents and visitors of Washington County.

The elimination of productive land that has produced more than one and a half million pounds of blueberries in one year and possesses the potential of doubling this amount would greatly hinder Maine's Blueberry Industry effort in stabilizing the annual production and maintaining its national markets. Fluctuations in Maine's Blueberry Crop combined by stiffening competition from blueberries produced in other regions undermines the stability of these markets. Loss of a sizeable area of productive land seriously aggravates this problem.

The production, harvesting, handling and processing of one and a half million pounds of blueberries accounts for more than half a million dollars of income largely to local people in Washington County. This sum of money is dispersed among unskilled laborers who have very little, if any, other employment opportunities. While an individual's share of this income may not be large, it represents a considerable income to people in an area with a high unemployment rate. An employment rate that reaches up to 15 per cent in the winter and spring - compared to 4 or 5 per cent during the blueberry harvesting and processing season.

Alteration of the existing conditions in the "Blueberry Barrens" in Township 19 MD will greatly affect the aesthetics of the area. These Barrens provide unique ecological conditions and beauty. The natural aesthetics of the wide open fields would be adversely affected by fencing and radar antennas extending thousands of feet and supported by hundreds of posts.

Location of the proposed Over-The Horizon Radar receiver in the areas outlined by the Air Force in the revised Environmental Impact Statement released on July 31, 1974, will have considerable adverse effects on a unique natural resource. This, in turn, will affect the Maine Blueberry Industry as a whole, the income of many residents of Washington County, a major food processing company, the use of the area for recreation purposes, and the natural aesthetics of a unique area in the State.

As I finish my statement, I would like to say to Colonel Stukel the Air Force has been changing horses in the middle of the stream and with the changes indicated this evening concerning moving away from your preferred site if the need arises, it would be a surprise. Thank you.

Maj Schmidt: Mr. C. F. Davis. Mr. Davis.

Mr. Davis: I will have a statement in Augusta.

Maj Schmidt: Mr. McNeish.

Mr. McNeish: I am J. Dennis McNeish, the regional Fishing Biologist of the Department of Inland Fisheries and Game. We, too, will be present at the meeting tomorrow. We would like to indicate that we are concerned. We would like to express our concern regarding the location of the receiver site in Township 19. We believe the draft environmental statement is inadequate for determining the impact of this site on the fish and wildlife and their utilization. We believe that it is impossible to actively assess the effect of this installation on the fish and wildlife and the resources of the area until more details, concerning the actual construction of the installation itself becomes available. The following are some of the details we feel we need before we can make a proper evaluation. Perhaps the most important, we think, we need a clear and more detailed map which will show us the location of the proposed construction field, the location of existing roads which will be closed to public use, the proposed relocation of such roads, the actual place they are going to be, something about the roads, what type of roads, how much fuel is going to be used, how much cutting will be needed to relocate those roads. We will have to know the location of power lines, which will be needed to service the installation and access roads which will be needed to service the installation. Number two, we will need to know the location, type of sewage treatment system which will be used at this installation. We would like to know more specific details regarding the vegetative control measures to be used on the receiver site, on the power lines, and the access roads. We would like additional detail concerning the actual location, the diesel fuel storage tanks, and such measures you intend to take to contain spills, should they occur. This is the conclusion of my statement.

Maj Schmidt: Mr. Otto H. Miller, Junior. Mr. Miller?

Mr. Miller: I had a statement here, but because of the development here tonight, I'd rather not read them. I am a sportsman and I'm interested in the Machias Watershed. I will have this revised and sent to you in the next five days.

Maj Schmidt: You may certainly do that, Mr. Miller. Mr. Kevin Stevens. Mr. Stevens?

Mr. Stevens: No comment.

Maj Schmidt: Thank you, sir. Mr. Lincoln Stackpole. Mr. Stackpole?

Mr. Stackpole: Gentlemen, I will be very brief. I would honestly hope that some type of a proposal, such as on the Sam Hill barrens that was mentioned here tonight be considered. Maybe, there are other alternate sites. As it stands now, on the Machias--I would caution that we're going to be in for a lot of trouble if you take a million and a half payroll out, which we know is going, possibly in the next few years and the Bucks Harbor Air Force Base. If some other site can be considered that doesn't take any currently productive blueberry land out of the area, such as Sam Hill barrens, then I would urge you to consider using the Bucks Harbor installation rather than some of the blueberry land. Thank you.

Maj Schmidt: Mr. Maynard G. Connors.

Mr. Connors: No comment.

Maj Schmidt: Mr. Neil W. Tenan.

Mr. Tenan: No comment.

Maj Schmidt: Daryl Forrester.

Mr. Forrester: No comment.

Maj Schmidt: Ralph R. Carter.

Mr. Carter: I have some land myself that I would like to have you people look at if you don't agree with this up here.

Maj Schmidt: Mr. Richard Farnsworth.

Mr. Farnsworth: No comment.

Maj Schmidt: Mr. Robert H. Foster.

Mr. Foster: I too have a feeling for the blueberry land. I think the figures have been revised so that we're talking approximately 600 acres of blueberry land. I think we're talking about a potential two million dollar payroll plus in Washington County, and I think it's a very good trade to trade 600 acres for a two million dollar payroll. I think we can't afford not to take it. That's about all I have to say.

Maj Schmidt: Thank you, Mr. Foster. Mr. Alfred L. Moore. Mr. Moore?

Mr. Moore: I think I will reserve my comments.

Maj Schmidt: Mr. Masiel Miller. Mr. Miller?

Mr. Miller: I think I am going to write my comments.

Maj Schmidt: Mr. Charles A. Stewart, Jr.

Mr. Stewart: I wasn't going to say anything, but now I would like to go along with Mr. Foster. It seems to me that the question here is not the 600 acres or the one or two million payroll. I'm only concerned with, why not keep the two million dollar payroll and put the site on another piece of land. That's all.

Maj Schmidt: Mr. Chadbourn H. Smith.

Mr. Smith: My name is Chadbourn H. Smith, and I am an attorney for Felton, Goodman and Sherman in Bar Harbor, and we represent A. L. Stewart and Sons and in doing so, we've been asked to represent the people in Washington County and make whatever contribution that seems appropriate in legal terms. So, I'd like to first review with you what the Federal law is which controls the Air Force thus far, that has not been reviewed, either on August 27th or here tonight. I have examined this for a moment, what the Federal statute says, what the case law construing this says, I examined how the Air Force has performed in trying to comply with Federal law in this instance, and finally, I've finally tried to make suggestions in a positive way which we can, consistent to the Air Force. Initially, I'd like to point out that the citizens of Washington County have a patriotic tradition which goes behind all of those of us who are here tonight. There has been land, and more significant the lives that have contributed to the defense of this nation from Washington County citizens. The Air Force would be amiss if they felt, generally speaking, people in Washington County were opposed to whatever the best interest is in the defense of our nation. So, I don't believe anyone here has expressed, nor do I feel, that there is a significant number of people in Washington County who are hard bound against the installation of the Over-The-Horizon radar. Rather, we are simply trying to retain what meager economic resources we have here and work with you in a combination which would result in a benefit to Washington County as well as a benefit to you. I recall last October 27th there was some disagreement in the group in whether or not the Air Force has the obligation to study the economic impact on Washington County. The Federal statutes on National Environmental Protection has specifically titled, 42 United States Code, Section 4332, uses the following terms: Appropriate considerations must be given to the impact on man's environment. It uses the words, human environment. It uses within the words, phrases, human environment, economic consideration, so one need go no further than the Federal law here to see that the Air Force has obliged in the developments to environmental impact--the economic impact on Washington County. The case law, quoting a case that this must be more than a pure mechanical compliance with the requirements of statute. There has been a number of

Federal district court cases in the last two years construing the statutes. Time and time again, it is said that, it is stated that the purely mechanical compliance with the law by the Federal agency involved, whether it be the Air Force or someone else is not sufficient. Furthermore, in Helium Corporation versus Morton, 1973 Federal district court case, the judge deciding the case said the agency, and in this instance would be the Air Force, has a duty to honor and utilize all relevant and available information and it is not the burden of others outside the agency to bring pertinent materials to the attention of the agency. Let's review just for a moment, the history prior to the August 27th meeting. In response to a question, Lieutenant Colonel Boswell wrote a letter, dated August 13th of this year, stating that extensive consideration had been given to the environmental impact on local areas within the State. When we, the citizens of Washington County, came here on August 27th, we began to prevail upon a credibility gap. Colonel Hobgood stated that we have started the economic impact to a limited extent. Colonel Stukel said we don't have specific economic information. It appeared at that point in time that one of the few variables that we, as lay people, could evaluate here, the economic impact on Washington County, had been looked at at all. The draft of the environmental impact statement discussed only the, to the very limited extent, the import of wages. It didn't discuss any of the negative impact on the socio-economical environment and concluded that there would be no long term socioeconomical impact. The Air Force, in short, proposed 1800 acres of good productive blueberry land without ever even examining the socioeconomical impact of the proposal. The Air Force went on in their August 27th meeting to admit that their knowledge of the blueberry industry was limited. In the environmental impact study it said that, on Page 6-1, that upon termination of the radar system, the land can revert to its former use. I think after our August 27th meeting and this meeting tonight, representatives of the Air Force have learned that this is cultured land they are talking about. It's undergone, for years, large investments and a number of steps involved such as mowing, cutting, burning, fertilizing from the air, as well as artificial pollination and irrigation. The land is in a cultural stage. It is absurd to assert, as an impact study, that the land can be brought back to its former use. The only way this land can revert to its former use, in 20 years hence, is to continue harvesting efforts of the land. We are impressed with the effort the Air Force has made since its preliminary statement--its first draft since our meeting here in August. We appreciate the change in position, the apparent increased flexibility in location of the site. We hope that that spirit will be continued in their evaluation. Our problem is, in the few areas in which we have any grass, the Air Force did not show a sincere dedicated effort to find out the

true facts and make an evaluation. If we see that, then the only area we understand, what are we to think about the technical representatives. We have no way to challenge them. However, we do sense the change in the attitude of the Air Force, and we hope the Air Force, when they communicate with Senator Muskie's office, clarify this statement that is extensive consideration of the economic impact on local areas have been made as of August 13th and to continue to consider other areas and to produce information to the public as to the cost and specific proposals rather than simply averting to gigantically increased proportions by a change of sites. And finally, and back to us, and give us the best possible situation in minimizing economic loss to Washington County and giving us the maximum increase. We note that the final draft of the environmental impact statement is upcoming and we ask that when that statement is available the Air Force come back here and have a public hearing and report to us the status of it and discuss it with us at that time.

Maj Schmidt:

Mr. Robert K. Stewart.

Mr. Stewart:

No comment.

Maj Schmidt:

Mr. John Pike Grady.

Mr. Grady:

I would think that most of us who attended the August 27th--the two weeks ago meeting--would agree that we have an awful lot of information here this evening than we had two weeks ago today. I attended all the meetings that we've had for the public--special meetings. I was not at the one where the Air Force met with the blueberry growers. There were a number of questions which were asked by a number of concerned citizens of Washington County with regards to access roads, roads leading to their lands, with regards to considering recreational areas. I am sure tomorrow that the State agencies will put a lot more data concerning the considerable State and Federal investment in the Machias Watershed in an attempt to bring back the Atlantic salmon. An attempt is currently going on to put the rivers of the State of Maine back to some or many uses, economic, recreational and I don't think we can split apart the people of the county by talking several millions of dollars. We need the several millions of dollars, there is no question about this. We need the Machias Watershed for all its reasons, which you will be given in great detail tomorrow by the other agencies of State and Federal government. The part that concerns me at the moment is that we are on several tracks. You have statutory demands which say that there is a clock running, so many days to the 23rd of September. On the 23rd of September, our comments have to be in, including mine, everyone in this room and beyond this room. Thirty days later, on the 23rd of October, the contractors come

in with their proposals on a 90-day track, as I understand it. We seem to be a little premature. We cannot answer, we cannot adjust intelligently your proposal which has to come 30 days from now and perhaps in the next 30-day period, we will be able to put more facts on this end of the counter into that record, but it seems that if the demands of the Air Force on the budget of the Federal government are such that we are always behind bringing these contractors--electronic manufacturers, the land contract problems in terms of cost and the comments of the citizens. We watched these squares representing the 500, 400 acres moved to accommodate the problem on the barrens in the area, and we can't immediately change all the facts in answering the draftment of where we stand today. I thank you for the opportunity to address the officials.

Maj Schmidt: Mr. Peter Parker.

Mr. Parker: No comment.

Maj Schmidt: Dr. James Mangis.

Dr. Mangis: I am opposed to the location of Over-The-Horizon radar receiver, particularly in the area of the barrens at this time. I base my position on the fact that I feel that the submitted draft environmental impact statement is totally inadequate and inadequately prepared without a thorough investigation, especially in regard to environmental impact. I shall submit a written statement before September 23rd, specifically stating my opinion of the impact of the OTH and the static impact on the recreational activities in the area involving the Machias River Watershed.

Maj Schmidt: Mr. John C. Bacon.

Mr. Bacon: No comment.

Maj Schmidt: Mrs. Alice C. Bacon.

Mrs. Bacon: No comment.

Maj Schmidt: Mr. Richard N. Bedard. Mr. Bedard?

Mr. Bedard: Mr. Chairman, my name is Richard Bedard, and I live in the town of Columbia. On August 27th, I attended the informational meeting held in this building by the U. S. Air Force. The exchange between the Air Force and the public was very interesting. As I recall, not once was the fact that blueberries are food, mentioned. It could be that this is just so evident, no one need mention the fact. However, it could also be due to most Americans living in a time of plenty, and finding the concept of food shortages to be an abstraction beyond present comprehension.

The purpose of my being here tonight, and presenting you with the attached statement, which I would like placed in the record, is to remind you that the ultimate crisis on this planet will be concerned with food. The energy crisis to Americans means not having enough gasoline to take a Sunday drive. For millions of starving people the energy crisis involves having enough food to keep a spark of life in their wretched bodies.

America is to food as the Arab countries are to oil. We have been blessed with an over-abundance of food producing land, that should be able to take care of our needs well into the future. The question then becomes, do we have any responsibility to try and feed the others on this planet that are not American citizens, or rich enough to buy our surplus, when we have it? If the answer is, let the rest of the world worry about their own food problems, then we better let the Air Force take the acreage in Township 19, and proceed with all haste to bolster our national defense. If just America is involved, then the trade-off of food producing land, for increased security, will be well justified.

Of course, the Arab countries can reason that they have no moral responsibilities to see that they help meet the increasing demand for oil in the United States. If they made that decision, then I would strongly suggest that they take quick action to beef up their defenses. It was not uncommon last winter to hear frustrated Americans discussing the justification for invading Arab nations to take oil. It seems that I can remember reading where our government even examined this possibility.

It is not uncommon in this country to worship the truth, and live the lie. If in truth, we want to shoulder some of the burden of providing food to feed an additional 200,000 people daily, or 72 million more a year, then we must look upon the Air Force plan to eliminate over 1,000 acres of food producing land, with outrage.

The environmental impact of this scheme has the potential of affecting the entire human society. Will the United States, who is sponsoring the World Food Conference in Rome in November, point with pride to how much respect and consideration was given to the food producing potential of land in Washington County, Maine, when the Air Force considered taking the land for defense use? Will the Air Force, as an agency of our government, set an example that can help improve our foreign policy, and prepare Congress and the American people to adopt sane land - use laws for the future.

You and I are currently sharing the world's resources with 3.9 billion people. The United Nations tells us

that by the year 2000, only 26 years from now, our children will be sharing with 6.5 billion people. The decisions that we make now will have a profound effect upon the quality of life for our descendants. Will they thank us, or curse us?

Starvation is one possible answer to the problem. In India last year, money was spent to develop the atomic bomb and maintain one of the world's strongest air forces while tens of thousands of people died from lack of food. Why should we do any more when the foreign countries don't seem to want to help themselves? Maybe we shouldn't. All I ask is that we be honest with each other, and not talk one way while we act another.

At the August 27th meeting, Colonel Stukel may have asked one man's question about alternate sites, with the comment that by moving too much earth around, you would have the environmentalists on your back. Well, I am not sure what Colonel Stukel means by an environmentalist, but like most labels or stereotypes, the word has little meaning. I am concerned about the survival of my family today, and in the future. The environment that we must live in has a direct bearing on that survival. What does it matter to me whether you want to take over a thousand acres of food-producing land, or move mountains? I have a responsibility to be concerned.

Threats to our survival come from within our country as well as from outside. A strong military is important. By not using the blueberry land for a radar receiver does not mean that all foreign countries will love us, and therefore, we will not have a need for this facility. Humanitarian gestures probably are less effective in keeping peace, than presenting a strong military. But this is open for debate.

I must join the others who have asked the Air Force to examine other possible sites. Although 70 million Americans are overweight, there is at this time a very real food crisis in the world. Even the oceans have produced fewer fish for three consecutive years. If we cannot properly feed 3.9 billion people in 1974, what are the prospects that we will be able to feed the estimated 10 billion people expected 125 years from now?

So, in my mind, even if it is an even trade in jobs and income for the local area, the bigger factor that must be remembered is that you are trading food producing land for a sterile radar receiver. This one issue, more than any other, should play a major part in the decision on whether to go ahead with the project. The precedent set here could cause ripples that will extend far beyond the county lines.

The blueberry is a nutritious fruit that is consumed by humans. Do we really want to take thousands of acres of this land out of production?

Maj Schmidt: This statement will be attached and made a part of the record.

Mr. Farley: Like a lot of people here tonight, I had prepared a written statement, but due to a lot more information being presented by the Air Force, I can no longer read that. I am still serious about this situation and, therefore, I would like to say a few words and explain why I feel the way I do. I will be very honest and say that my reasons are selfish. This is a democratic country, so I feel it's all right. If you will bear with me for a couple of minutes, I'll explain why I am leaning this way. I have been in this country now since 1963, and I claim Maine as my home and I've been here ever since. I've stayed in the State of Maine. I've had numerous opportunities--I've been around the country, particularly on the east coast, and have had several opportunities to find employment in other areas, other cities and so on, in other states and make considerably more money than I do today. I refused these opportunities simply because I really enjoy the State of Maine. You gentlemen on my right, in the last four weeks, I'm sure, have your own impression. The area is a special kind of place. It says so on the back of your automobile. It says "Vacation Land." That's what it really is all about. It's our biggest thing, our biggest industry, in fact. I know nothing about blueberries except they taste awfully well. I hardly know anything about the economics of this particular county because I live in Southwest Harbor, and I am a qualified architect and was fortunately able to travel in Washington County almost immediately upon my arrival here. I met some very unusual and nice people, very special people, and I also got to enjoy Washington County. I vowed that if I ever got the opportunity to move here, I would. This I have been lucky enough to do. I'm lucky enough to live here; I'm lucky enough to vacation here. Most of you people here, I'm sure, if you go out of state, there's a special feeling when you come back and cross the state border and see "Welcome to Maine." It's a feeling that's hard to describe and you have to experience it. What disturbs me is that all kinds of organizations are always out to change it--Washington County. Washington County does have economic problems, this I'm sure. It's not as bad as a lot of people would like to make it. They are always out to do something to change it, and I feel that before these changes take place, someone should really look into this and see if it's really what it needs. Lots of people have houses in Florida or live in other places and come up here because they want to get away from the pressures of the city. A lot of people from Washington County, whenever they're able to, head up state to get jobs or in other states that pay union wages, but the minute they can, they head back to Washington County. It's a great place to return to and that's something that's

very hard to say about a lot of other places that I can think of. What concerns me more than anything else is about this blueberry barrens. "Barrens" is an unfortunate word that was chosen for the area. It's a very beautiful place. It's a great place to vacation in. I personally enjoy it very much. I know the barrens very well indeed. I spend most week ends there, certainly in the fall and in the summer. In the winter I ski, so I don't go there quite so much. This may not seem important to a lot of people if you look at it from an economic standpoint, but you always have to look a little bit further than that. There is something on the barrens that nobody has mentioned and that is tree plantation. The thing that I want to say about this, and then I will close, is I think the Force has shown tonight a lot more information than they have in the past. The way they obtained this information, I think, shakes the credibility just a little bit. The maps that I have seen in use and the maps they have used, in their own admittance, leave a lot to be desired, that's one thing. The second thing is that they were taken on a tour of the blueberry lands by one of the blueberry landowners, and by his own admission, got lost in the barrens. He even found some Indian camps that he didn't even know existed. Well, I think this is rather humorous. Also, when it was discussed, the type of antenna, I understand the design situation very well, there were very tall ones taking up very little space and very long flat ones, four feet high--someone said, what happens to them when they get buried in snow, and they most certainly will, there was some embarrassment about this, because nobody ever thought of it: at least that is the way I understand it. In closing, I would like to say that one of the statements, or one other thing that happened and this disturbs me also, when another piece of land was suggested, there was a slight reaction to this and the word was, of course, the man who owns this land has some political plans. This statement may have been certainly turned around a little bit. I did go to one small meeting outside the one two weeks ago, and I was going to a meeting with Colonel Stukel and Colonel Hobgood and Mr. Mansfield, but unfortunately I couldn't attend it. These are my own feelings, and as I say, they are selfish ones. It's a lot of good intent behind them. I'd just like to think that even if some of my information is not 100 per cent correct, I think the general inference in the information is reasonably correct, and I would like to feel secure in the fact that there is a great deal of attention placed in these details. Thank you.

Mr. Schmidt:

Mr. Look.

Mr. Look:

I don't believe I have any serious objection to your proposal, perhaps, some minor reservations about the

antenna site. This would depend on what type of construction takes place in that area. As far as the information available here tonight, I believe that all my questions have been satisfactorily answered. Thank you.

Maj Schmidt: Ladies and Gentlemen, that concludes the speakers that had indicated on the attendance slips that they wished to speak. Is there anything further from the floor?

(A negative response was indicated from the floor.)

Maj Schmidt: Since there appears to be nothing further, I would like to sincerely thank everyone for attending the meeting, and I am particularly grateful for the questions asked and the statements that have been presented. As I stated before, in my opening remarks, forty-five days from the date the Air Force filed and distributed the draft environmental impact statement are allowed for written comments. These comments are due by September 23rd, 1974. If anyone here has any written comments they wish to attach to the transcript of these proceedings, they should mail these comments to me at Loring Air Force Base, Maine 04750, within five days. Is there anything further? If there is nothing further, this hearing stands adjourned.

The hearing adjourned at 2300 hours, 12 September 1974.

not think that it is  
the best.

St. Louis first  
Preferred Siting preter-  
m. Board created.  
Sept 13, 1974 and  
thank you.

Roberto Puffo  
Columbian  
Magus

**FRANKLIN WOODCRAFT COMPANY**

*Wood Product Manufacturers*

DIAL 565-3558

**FRANKLIN, MAINE**

Sept. 16, 1974

Major James Schmidt  
Loring Air Force Base  
Limestone, Maine

Dear Sir,

My feeling is that the new proposal would be much better for all concerned than the original proposal, and that it would take very little prime blueberry land out of production.

I urge you to give careful consideration to leaving every possible acre of land open for public use such as hunting, fishing, snowmobiling and all other possible outdoor activities.

The economy of the area is very low and this proposal will assist in improving the situation.

I support this project as long as all problems are considered with the welfare of the people and the area foremost in mind.

Yours truly,

*Maynard H. Connors*

SEPTEMBER 16, 1974

THE HONORABLE EDMUND MUSKIE  
U. S. SENATE OFFICE BUILDING  
WASHINGTON, D.C.

Dear Senator Muskie:

HAVING ATTENDED THE INFORMATIONAL HEARINGS HELD AT WASHINGTON,  
MAINE ON AUGUST 27 AND SEPTEMBER 12 BY THE U.S.A.F. PERTAINING TO  
THE PROPOSED RADAR RECEIVER SITES I AM VERY DISTURBED.

IF THE DEFENSE DEPARTMENT FEELS WE NEED THIS DEVICE FOR THE PRO-  
TECTION OF OUR COUNTRY I'M SURE NOBODY IN WASHINGTON COUNTY WOULD  
REJECT. BUT WE DON'T NEED THIS THING SITTING IN THE MIDDLE OF  
'THE BARRENS'. FIRST OF ALL, THE BARRENS ARE BEAUTIFUL. BEAUTIFUL  
DURING ALL SEASONS. EARLY SPRING, AS ALL OVER MAINE, HUNDREDS OF  
SHADES OF GREEN - LATE SUMMER THE BERRIES ARE SO ABUNDANT THE LAND  
LOOKS LIKE A ROLLING BLUE CARPET. IT'S A MEETING PLACE FOR THE  
BIRDS BEFORE THE LONG SOUTHERN FLIGHTS BEGIN. ALSO FANTASTIC TO  
VIEW UNDER HEAVY SNOW CONDITIONS. AS STEADY WINTER WIND PILLS  
DRIFTED SNOW IN SWIRLS TEN FEET HIGH TO REMIND ONE OF A GIANT CAKE  
WITH PEAKS OF WHIPPED CREAM. BARREN THIS LAND IS NOT. FOLIAGE  
IS ABUNDANT - THE COLORS NEVER THE SAME TWO DAYS IN A ROW.

I KNOW NOTHING ABOUT THE ECONOMIC VALUE OF THIS LAND, OR ABOUT  
IT'S OWNERS. BUT I DO KNOW I'VE WATCHED THE BURNING OF THE BARRENS.

THE HONORABLE EDMUND MUSKIE  
SEPTEMBER 16, 1974  
PAGE TWO

I'VE WATCHED THE IRRIGATION IN OPERATION; I'VE WATCHED THE HARVEST OF THE BLUEBERRIES. THERE ARE MANY EMPLOYED HERE - MANY UNEMPLOYABLE ELSEWHERE - MANY TEENAGERS EARN THE MONEY FOR THEIR FALL SCHOOL CLOTHES WORKING ON THE BARRENS. IT DOES AID MANY FAMILIES.

AT THE AUGUST 27 MEETING HELD AT HARRINGTON, THE A.F. REPRESENTATIVES, COL. STUKLE AND LT. COL. HOBGOOD CAME ON STRONG WITH "THIS IS THE PREFERRED SITE LOCATION" AND IT MUST BE HERE ON THIS FLAT TERRAIN OF THE BARRENS OTHERWISE THE PRICE WILL SKYROCKET. FLAT IT MAY BE, BUT THERE ARE VALLEYS IN THE AREA YOU COULD SET A FOOTBALL STADIUM IN. THE A.F. COULD ONLY BE FLEXIBLE WITH THEIR SITE LOCATIONS ONLY A FEW DEGREES - AT FIRST - THEN IT SEEMS THE THOUGHT HAD OCCURED TO PUT TWO SITES ON THE SAM HILL BARRENS - AND TWO ON THE TW. 19 BARRENS WITH THE MACHIAS RIVER SEPARATING THE TWO LOCATIONS. THIS IDEA WOULD INCLUDE A BRIDGE ACROSS THE RIVER AND WAS REVEALED UNINTENTIONALLY ON SEPTEMBER 10.

SENATOR MUSKIE, IN THE TWO WEEK SPAN BETWEEN THE MEETINGS OF AUGUST 27 AND SEPTEMBER 12 THE SENATE FROZE THE MILITARY FUNDS FOR THIS INSTALLATION UNTIL JUNE, 1975. THANK GOD YOU STEPPED IN. IN THAT TWO WEEKS COL. STUKLE MET MAJ. HOFF OF THE NEARBY BUCKS HARBOR A.F.M. RADAR STATION, THEREBY LEARNING THAT THIS BASE WAS BEING

THE HONORABLE EDMUND MUSKIE  
SEPTEMBER 16, 1974  
PAGE THREE

PHASED OUT OF THE MILITARY AND WOULD BE MAINTAINED BY THE F.A.A.  
COL. STUKLE NOW WANTS TO TIE THAT BASE IN WITH "HIS PROJECT" - IT  
ON THE BARRENS" - BOTH BEING A.F., HE CAN PROBABLY SWING IT HIS WAY  
AND SAVE THE DEFENSE DEPARTMENT A LOT OF MONEY. HIS SENTIMENTS,  
NOT MINE.

I-6 IF THAT OPERATION, BUCKS HARBOR, CAN BE CONSUMED BY THE OTH---HAS  
THE A.F. NOT HEARD ABOUT THE CUTLER NAVY BASE? THE PROJECT THERE  
IS TWENTY YEARS OLD, OR BETTER, MUST BE ALMOST CONSIDERED OBSOLETE  
IN THEIR OPERATIONS, HAS ALREADY BEEN FLATTENED - COPPER BOTTOMED,  
CONCRETED AND HAS NO OBSTRUCTION BETWEEN IT AND THE ATLANTIC OCEAN -  
AND COULD SAVE A FULL YEARS COST IN GRADING LAND ALONE. THIS CON-  
TAINS A PENINSULA OF LAND - AND ALL THE FACILITIES YOU COULD  
IMAGINE. THE AREA IS AS FLAT AS A TABLE TOP AND LARGE ENOUGH FOR  
ALL FOUR OF COL. STUKLES RECEIVERS AND ANTENNAS AND CLOSE ENOUGH  
TO BUCKS HARBOR SO IT WOULD BE A CONVENIENCE THERE ALSO.

I UNDERSTAND MR. JAMES MANSFIELD, CIVIL ENGINEER, HAS WORKED FOUR  
YEARS ON THIS PROJECT. HIS EQUIPMENT? TOPOGRAPHIC MAPS ANY PERSON  
CAN BUY FOR 50¢. THAT WAS HOW HE CHOSE THE SITE LOCATION FOR A  
PROJECT COSTING THE GOVERNMENT MILLIONS OF DOLLARS. HE SAID SO.  
IN FOUR YEARS HE SHOULD KNOW EVERY FLAT SECTION OF LAND IN NEW

THE HONORABLE EDMUND MUSKIE  
SEPTEMBER 16, 1974  
PAGE FOUR

ENGLAND, INCLUDING THE AREAS OF GOVERNMENT MAINTAINED UNUSED LAND IN ARKOSTEOK COUNTY. HE FOUND THE BARRENS AND STOPPED LOOKING FOR SITES, BOTH IN THE COUNTY AND WITHIN THE STATE.

COL. STUKLE HAS ONLY BEEN ON THIS OTH PROJECT SINCE JUNE OF THIS YEAR. NOT LONG ENOUGH TO KNOW HIS WAY AROUND WASHINGTON COUNTY. FAMILIAR WITH ROUTES AROUND THE WORLD WITH DR. KISSINGER MAYBE, BUT NOT HERE.

NOT ONLY DO I FEAR FOR THE AESTHETICS OF THE BARRENS, A BEAUTIFUL PLACE, BUT I FEAR FOR THE WATERSHEDS OF THE MACHIAS RIVER. THE PREFERRED SITES ARE DANGEROUSLY CLOSE TO THE BLACK BROOK PONDS AREA, WHICH FEED INTO MOPANG STREAM, AND SO INTO THE MACHIAS RIVER.

MOPANG STREAM IS THE MAJOR SPAWNING GROUNDS FOR THE ATLANTIC SALMON WHICH GO UP THE MACHIAS. THE FEDERAL GOVERNMENT HAS SEEN THE NEED, AND PUT A GREAT DEAL OF MONEY INTO THE SALMON RESTORATION PROGRAM, AND FOR THE PROTECTION OF RIVERS AND THEIR RESPECTIVE WATERSHEDS. ANY DAMAGE IN THESE AREAS WOULD HAVE SPORTSMEN AND ENVIRONMENTALISTS IN THE MARCH, AND RIGHTFULLY SO.

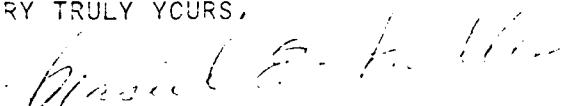
THERE WERE MANY PEOPLE AT THE TWO HARRINGTON MEETINGS WITH STRONG FEELINGS AGAINST THE PROPOSED SITE LOCATIONS. MANY TOO SHY TO

THE HONORABLE EDMUND MUSKIE  
SEPTEMBER 16, 1974  
PAGE FIVE

SPEAK THEIR OPINIONS OR FOR THEIR PERSONAL REASONS. FEELINGS SUCH AS - IT CAN'T HAPPEN HERE - OR THAT A PERSON HAD ALREADY SAID THIS. THOUGHTS SO WHY REPEAT? ANOTHER WOULD HAVE BEEN THAT THE AIR FORCE WOULD GET WHAT THEY WANT IN THE END BECAUSE OF SUCH STATEMENTS AS WE ARE GOING TO BUILD HERE, GIVING VERY DEFINITE IMPRESSIONS.

I DO HOPE MUCH STUDY IS GIVEN FOR SITE LOCATION BEFORE NEXT JUNE 1975. THERE ARE SO MANY PLACES IN MAINE WHERE THESE RECEIVER SITES COULD BE LOCATED WITHOUT RUINING THE AREA. IT WOULD BE A CRIME AGAINST NATURE TO PLOP THE OTH<sup>R</sup> IN THE MIDDLE OF THE BARRENS.

VERY TRULY YOURS,



MASEL E. MILLER

CC: HON. KENNETH CURTIS  
HON. WILLIAM HATHAWAY  
HON. WILLIAM COHEN  
REP. RILEY WELCH  
REP. PHILIP SAVAGE  
HON. JAMES SCHMIDT



## College of the Atlantic

Bar Harbor, Maine

September 4, 1974

Major James B. Schmidt  
Staff Judge Advocate 42 CSG  
Loring Air Force Base, Maine 04750

Dear Major Schmidt:

As a resident of Cherryfield, Maine I feel compelled to comment on the "Environmental Impact Statement" prepared by the Air Force in connection with the proposed "Over the Horizon Backscatter" radar installation to be located in Washington County. The "Environmental Impact Statement" is inadequate and inaccurate in many respects. It should not provide the basis for going ahead with the project.

(-1) The statement indicates that the social and economic impact of the proposed project would be practically nil, as the land to be taken is only "wild blueberry land." As the Air Force should now be aware, this land is cultivated blueberry land, one of the most productive areas for blueberries in the state and the nation, and the basis for one of Cherryfield's few productive industries, blueberry harvesting and canning. It is incredible that the Air Force could indicate that no industry is to be affected by the installation, and yet fail to avoid the problem of assessing the probable impact of the installation on the economy of the area. At the informal hearing at Narraguagus High School on August 29 the officers present showed a complete lack of interest in answering the size and operations of the blueberry industry operators present. They even alleged that it was not their responsibility to do so. It very clearly is their responsibility, however, to correct the errors and omissions in the "Environmental Impact Statement" before any further action is taken on the project. I will speak to this question at the hearing to be held on September 12, if necessary.

Sincerely yours,

*Linda Swartz*  
Linda Swartz  
Faculty: Cultural Ecology

10/1/74

Concord, Maine  
August 1, 1974

Major James L Schmidt  
Staff Judge Advocate  
42 CSG  
Loring Air Force Base  
Maine 04750

Dear Major Schmidt -

As a resident of Maine I wish to express my opposition to the plans of the Air Force to place a radar station on the Al Stewart blueberry land in Washington County.

Although the radar service may be needed, it should not be placed on land which is now economically productive.

Although jobs may be created, the increase in Winter Harbor and Cutler W.M. Navy installations would indicate only a small increase in local employment and then in seasonal jobs.

1-8 I wonder too why the Air Force declines to submit to the environmental standards of the state of Maine.

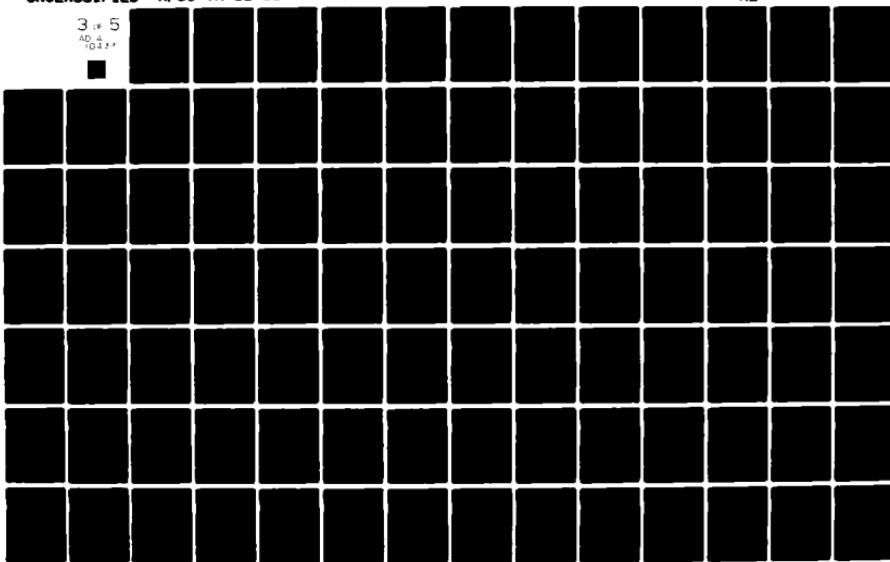
AD-A104 331 AIR FORCE SYSTEMS COMMAND WASHINGTON DC  
FINAL ENVIRONMENTAL STATEMENT. CONTINENTAL UNITED STATES OVER-T-ETC(U)  
JAN 75

UNCLASSIFIED AFSC-TR-81-63

F/0 17/9

NL

3 of 5  
AD-A104-331



I hope you will search for ~~an~~  
another location for your project -  
There is a lot of barren land in  
Washington County. The jobs you  
will add will benefit the  
people of the County, and not  
merely substitute for those  
destroyed in the blueberry fields.

Yours truly -  
Joan Woodseem

HRS Box 70  
Cape Elizabeth  
ME 04107

STATEMENT ON THE ANTICIPATED EFFECTS OF THE PROPOSED  
OVER-THE-HORIZON RADAR SYSTEM ON FIFTEEN HUNDRED  
ACRES OF BLUEBERRY FIELDS IN TOWNSHIP 19 MD,  
WASHINGTON COUNTY AND ON THE  
MAINE BLUEBERRY INDUSTRY

Prepared by  
Amr A. Ismail  
Assistant Professor of Horticulture  
and Extension Blueberry Specialist  
University of Maine, Orono

September 4, 1974

## FOREWORD

This statement is not intended to comment on the validity of the Over-The-Horizon Radar System proposed by the Air Force. It is intended to explore the anticipated effects of locating the receiver system on fifteen hundred acres of blueberry fields in Township 19 MD, Washington County and on the Maine Blueberry Industry.

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STATEMENT ON THE ANTICIPATED EFFECTS OF THE PROPOSED  
OVER-THE-HORIZON RADAR SYSTEM ON FIFTEEN HUNDRED  
ACRES OF BLUEBERRY FIELDS IN TOWNSHIP 19 MD,  
WASHINGTON COUNTY AND ON THE  
MAINE BLUEBERRY INDUSTRY

Prepared by  
Amr A. Ismail  
Assistant Professor of Horticulture  
and Extension Blueberry Specialist  
University of Maine, Orono

Introduction and Background Information.

Maine is the only State in the U. S. with a sizeable commercial production of lowbush Blueberries (Vaccinium angustifolium Ait. and related species). Blueberries are commercially harvested from approximately 40,000 acres of native lowbush blueberry stands. Due to the cultural practices employed by Maine blueberry growers only 20,000 acres are harvested annually. Approximately 20,000 acres of the total lowbush blueberry fields are located in Washington County and about 10,000 of these acres are harvested annually. The largest concentrated areas of native lowbush blueberry fields are known as the "Blueberry Barrens" and are located in Township 19, <sup>W4/25</sup> Columbia Falls area and the western barrens are located in Township 18, Deblois, Columbia, and Cherryfield.

Harvesting of Maine lowbush blueberries dates back to the native Indians and records are available of commercial harvesting of this fruit from Washington County Blueberry Barrens for more than one hundred years. Practically all of Maine's lowbush blueberries are processed in the State. Crop failure or reduction in the crop size adversely influences the economics of the processing centers, towns and labor force. Crop success also effects these integrated parts of the Maine Blueberry Industry.

Production of Maine Lowbush Blueberries, while it may appear as a seasonal operation, provides for certain job opportunities that last for several

months. A large blueberry enterprise would provide 3 months work opportunity in growing operations in the field. Packing and repacking of the berries provide year around employment to some factory workers.

The Maine Blueberry Industry has faced increasing competition from the highbush blueberry industry in Michigan, New Jersey and North Carolina. While the Maine lowbush blueberry is preferred and prized for processing purposes, the Maine Blueberry Industry has lost some ground in the national market because of fluctuation in production. A great production fluctuation does not provide for a stable market. Markets that are lost to highbush blueberries or other fruits such as processed cherries or apples are difficult to regain. A sizeable decrease in production potential would aggravate the problem of fluctuation in production and may have detrimental effects in the long run on the use of Maine lowbush blueberries.

With the continuing changes in the culture of lowbush blueberries, irrigation is becoming an increasingly important practice. Land with good native blueberry stands, easily accessible, without major obstacles (large rocks, ~~trees~~, etc.) that can be easily and economically irrigated provides the backbone of the Maine Lowbush Blueberry Industry.

At present there are no economical commercial methods for establishing large acreages of lowbush blueberry fields. While research efforts in this area have made significant progress, many practical questions need to be answered before large scale commercial plantings of lowbush blueberry fields are a reality. When and if such fields are established, it will be several years before they are commercially productive.

Experience proved that native lowbush blueberry stands when neglected undergo changes in their floral composition. If cultural practices are discontinued, a steady decline in the blueberry productivity and increase in the

population and size of competing species ensues. For example, four or five years of neglect may be accompanied by sufficient changes in the growth characteristics in the field to render it uneconomical for commercial production of lowbush blueberries. It may take 4 to 6 years and a considerable expense to bring this field back to economical production of berries. Discontinuation of cultural practices for 20 years, probably will result in changes in the flora that will make it uneconomical to reconvert the area to production of native lowbush blueberries.

Because of the location of the Blueberry Barrens, climate, soil conditions, social traits and traditional skills of the inhabitants of the region, lowbush blueberries have proven to be the most adaptable and practical crop for this area. Lowbush blueberries have been commercially harvested and processed there for more than one hundred years. All present signs indicate that, if uninterrupted, the lowbush blueberries will continue to play a significant and important role in the economy of the people in Washington County and the State of Maine.

Management of lowbush blueberry fields has changed from casual gathering of wild berries by the native Indians to concentrated production efforts. Management practices presently employed include the use of herbicides for weed control, aerial application of fertilizers and pesticides, pruning, insect and disease control, the use of honey bees for pollination, and irrigation. Although the production of these berries on the barrens does not require a large permanent labor force, the harvesting crew is usually in excess of fifteen hundred people. In addition, the stringing of the fields, winnowing the berries, hauling the fruit to the packing factory, and the cleaning and packing operations provide work opportunities for local residents and migrant workers. None of these operations require highly skilled labor. However, they provide jobs for people of all ages who have very little, if any, other work opportunities.

Residents of Washington County face chronic unemployment problems. In 1973 the unemployment rate of the civil labor force in Washington County ranged between 13.0 and 14.6 percent in the months of January, February, March, April and May. The percentage dropped to 4.3 in August and 4.9 in September. In 1972 while the unemployment figures ranged between 10.2 and 15.6 percent of the civil labor force for the months of January to May, it dropped to 4.1 and 3.8 in August and September respectively. Similar patterns were evident in the 1970 and 1971 statistics.

It is practically impossible to identify the exact number of workers who are involved in one way or another with the blueberry industry in Washington County. However, there is no denial that the blueberry industry accounts for considerable seasonal employment opportunities, particularly during the months of July, August and September.

Anticipated Effects of Elimination of Fifteen Hundred Acres of Lowbush Blueberry Fields in Township 19 MD for the Proposed Over-The-Horizon Radar System.

Elimination of fifteen hundred acres of productive lowbush blueberry fields in Township 19 ~~MD~~ will have irreparable adverse effects on the Maine Blueberry Industry, the ~~income~~ of many residents of Washington County, and a leading ~~Maine~~ food processing company. Revenues from local and State taxes will also be lost.

The land in question is considered to be well above average in production ability and with excellent potential for continued improved productivity. Such land is not easy or practical to replace for the production of native lowbush blueberries. Altering the present use of these fields to a radar receiving site will deprive the region of a natural resource that has provided income and beauty to the residents and visitors of Washington County.

The elimination of productive land that has produced more than one and a half million pounds of berries in one year and possesses the potential of doubling this amount would greatly hinder Maine's Blueberry Industry effort in stabilizing the annual production and maintaining its national markets. Fluctuations in Maine's Blueberry Crop combined by stiffening competition from blueberries produced in other regions undermines the stability of these markets. Loss of a sizeable area of productive land seriously aggravates this problem.

The production, harvesting, handling and processing of one and a half million pounds of blueberries accounts for more than half a million dollars of income largely to local people in Washington County. This sum of money is dispersed among unskilled laborers who have very little, if any, other employment opportunities. While an individual's share of this income may not be large, it represents a considerable income to people in an area with a high unemployment rate. An employment rate that reaches up to 15 percent in the winter and spring - compared to 4 or 5 percent during the blueberry harvesting and processing season.

Alteration of the existing conditions in the "Blueberry Barrens" in Township 19 MD will greatly affect the aesthetics of the area. These Barrens provide unique ecological conditions and beauty. The natural aesthetics of the wide open [redacted] fields would be adversely affected by fencing and radar antennas extending thousands of feet and supported by hundreds of posts.

#### Conclusion

Location of the proposed Over-The-Horizon Radar receiver in the areas outlined by the Air Force in the revised Environmental Impact Statement released on July 31, 1974 will have considerable adverse effects on a unique natural resource. This, in turn, will affect the Maine Blueberry Industry as a whole, the income of many residents of Washington County, a major food processing company, the use of the area for recreation purposes, and the natural aesthetics of a unique area in the State.

Narraguagus High School  
Harrington, Maine  
September 12, 1974

United States Air Force  
Environmental Impact Hearing  
Radar Receiver - Township 19

Dear Mr. Chairman:

My name is Richard N. Bedard. I live in the Town of Columbia.

On August 27<sup>th</sup> I attended the informational meeting held in this building by the U.S. Air Force. The exchange between the Air Force and the public was very interesting. As I recall, not once was the fact that blueberries are food, mentioned. It could be that this is just so evident, no one need mention the fact. However, it could also be due to most Americans living in a time of plenty, and finding the concept of food shortages to be an abstraction beyond present comprehension.

The purpose of my being here tonight, and presenting you with the attached statement, which I would like placed in the record, is to remind you that the ultimate crisis on this planet will be concerned with food. The energy crisis to Americans means not having enough gasoline to take a Sunday drive. For millions of starving people the energy crisis involves having enough food to keep a spark of life in their wretched bodies.

America is to food as the Arab countries are to oil. We have been blessed with an over-abundance of food producing land, that should be able to take care of our needs well into the future. The question then becomes, do we have any responsibility to try and feed the others on this planet that are not American citizens, or rich enough to buy our surplus, when we have it? If the answer is, let the rest of the world worry about their own food problems, then we better let the Air Force take the acreage in Township 19, and proceed with all hast to bolster our national defense. If just America is involved, then the tradeoff of food producing land, for increased security, will be well justified.

Of course the Arab countries can reason that they have no moral responsibilities to see that they help meet the increasing demand for oil in the United States. If they made that decision, then I would strongly suggest that they take quick action to beef up their defenses. It was not uncommon last winter to hear frustrated Americans discussing the justification for invading Arab nations to take oil. It seems that I can remember reading where our government even examined this possibility.

It is not uncommon in this country to worship the truth, and live the lie. If in truth, we want to shoulder some of the burden of providing food to feed an additional 200,000 people daily, or 72 million more a year, then we must look upon the Air Force plan to eliminate over 1,000 acres of food producing land, with outrage.

The environmental impact of this scheme has the potential of affecting the entire human society. Will the United States, who is sponsoring the World Food Conference in Rome in November, point with pride to how much

U.S. Air Force Hearing

September 12, 1974

much respect and consideration was given to the food producing potential of land in Washington County, Maine, when the Air Force considered taking the land for defense use? Will the Air Force, as an agency of our government, set an example that can help improve our foreign policy, and prepare Congress and the American people adopt sane land-use laws for the future.

You and I are currently sharing the world's resources with 3.9 billion people. The United Nations tells us that by the year 2000, only 26 years from now, our children will be sharing with 6.5 billion people. The decisions that we make now will have a profound effect upon the quality of life for our descendants. Will they thank us, or curse us?

Starvation is one possible answer to the problem. In the year, money was spent to develop the atomic bomb and maintain one of the world's strongest air forces while tens of thousands of people died from lack of food. Why should we do any more when the foreign countries don't seem to want to help themselves? Maybe we shouldn't. All I ask is that we be honest with each other, and not talk one way while we act another.

At the August 27<sup>th</sup> meeting, Col. Stukel responded to one man's question about alternate sites, with the comment that by moving too much earth around, you would have the environmentalists on your back. Well, I am not sure what Col. Stukel means by an environmentalist, but like most labels or stereotypes, the word has little meaning. I am concerned about the survival of my family today, and in the future. The environment that we must live in has a direct bearing on that survival. What does it matter to me whether you want to take over a thousand acres of food producing land, or move mountains? I have a responsibility to be concerned.

Threats to our survival come from within our country as well as from outside. A strong military is important. By not using the blueberry land for a radar receiver does not mean that all foreign countries will love us, and therefore, we will not have a need for this facility. Humanitarian gestures probably are less effective in keeping peace, than presenting a strong military. But this is open for debate.

I must join the others who have asked the Air Force to examine other possible sites. Although 70 million Americans are overweight, there is at this time a very real food crisis in the world. Even the oceans have produced fewer fish for three consecutive years. If we cannot properly feed 3.9 billion people in 1974, what are the prospects that we will be able to feed the estimated 10 billion people expected 125 years from now?

So in my mind, even if it is an even trade in jobs and income for the local area, the bigger factor that must be remembered is that you are trading food producing land for a sterile radar receiver. This one issue, more than any other, should play a major part in the decision on whether to go ahead with the project. The precedent set here could cause ripples that will extend far beyond the county lines.

The blueberry is a nutritious fruit that is consumed by humans. Do we really want to take thousands of acres of this land out of production?

Sincerely,  
Richard N. Bedard

SUPPLEMENTARY RESPONSE TO THE INFORMAL PUBLIC HEARING

CONUS OVER-THE-HORIZON RADAR SYSTEM  
HARRINGTON, MAINE

12 SEPTEMBER 1974

I-1 Mr. Thomas Franklin, Page 19 of the Harrington transcript. Pretty Pond, located on Beech Hill Heath eight miles northwest of Montegail Pond, will not be taken over by the Air Force and public access to Pretty Pond will not be affected by the CONUS OTH-B Radar System.

I-2 Mr. Donald Busbey, Page 21 of the Harrington transcript. There is negligible difference in the cost of communications when comparing an operational configuration using either of the Montegail Pond receiver sites (Technically preferred or Option 1) to an operational configuration using Sam Hill Barrens as part of the receiver site (Option 2).

I-3 Mr. Don Bouwens, Page 21 of the Harrington transcript. The FES, paragraph 5.c., Pages 41 and 42, has been revised to provide the differential costs of using Options 1 or Option 2 as the receiver site instead of the technically preferred receiver site.

I-4 Mr. Dean Lock, Page 25 of the Harrington transcript. The FES, paragraph 1.b.(2), Page 2, and Section 6, Page 44, has been revised to provide information on the anticipated life span of the radar system.

I-5 Mr. Ismail, Pages 33 thru 36 of the Harrington transcript. The Air Force wishes to express its gratitude to Professor Ismail for expert and valued information related to the commercial production of Lowbush Blueberries in the State of Maine. The information provided by Professor Ismail has been widely incorporated in the FES and lends much to the comprehensiveness of the document. Specifically, see pages 20, 27, 28, 44, 45 and 75 of the FES.

I-6 Masiel E. Miller's letter to Senator Edmund Muskie, September 16, 1974. Reference the FES, paragraph 1.c., Page 8, concerning the Cutler Navy Installation.

I-7 Linda Swartz's letter to Major James L. Schmidt, September 4, 1974.

The FES, paragraph 3.e., Pages 26 thru 31, has been revised to provide additional information on the social and economic impact of the proposed system.

I-8 Joan Woodburn's letter to Major James L. Schmidt, August 1, 1974.

The FES, paragraph 4.a., Page 35, has been revised to indicate the measures and controls which will be implemented to minimize the impact of any adverse environmental effects.

APPENDIX J

INFORMAL PUBLIC HEARING  
CONUS OVER-THE-HORIZON RADAR SYSTEM  
AUGUSTA, MAINE  
13 SEPTEMBER 1974

OFFICIAL TRANSCRIPT  
EXHIBITS  
SUPPLEMENTARY RESPONSES

The supplementary responses are addressed to comments and questions specifically identified in the official transcripts and exhibits. The identification is a reference number to the left of the particular comments or questions.

REPORT OF HEARING  
ON REVISED DRAFT ENVIRONMENTAL STATEMENT  
CONUS OVER-THE-HORIZON RADAR SYSTEM

Hearing Held At: Augusta, Maine

On: 13 September 1974

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REPORT OF HEARING

The following is a report of the hearing; convened on the Revised Draft Environmental Statement, dated July 1974, concerning the Over-The-Horizon Radar System, Continental United States.

The hearing was held in Room 105, State Office Building, Augusta, Maine. The hearing convened at 1410 hours on 13 September 1974. Major James L. Schmidt presided.

MAJ SCHMIDT: For the record, I am Major James L. Schmidt, Staff Judge Advocate at Loring Air Force Base, Maine. I think the first order of business today will be to permit the removal of coats so that we can function a little more in an informal atmosphere and a lot cooler.

I have been directed by the Office of the Secretary of the Air Force to conduct an informal public hearing on the Revised Draft Environmental Impact Statement filed by the Air Force on the proposed construction of an Over-The-Horizon Radar system in the State of Maine.

It is proposed that the transmitter site be located in Moscow/Caratunk, Somerset County, Maine, and that the receiver site be located in Township 19MD, Washington County, Maine. The Air Force filed and distributed this statement for comments on July 30, 1974. The purpose of the draft under the Council on Environmental Quality Guidelines is to set out the agency's analysis of the environmental impact on the proposed action and the alternatives to it. Forty-five days until September 23, 1974 are allowed for written comments. Written comments should be mailed to Dr. Billy E. Welch, Special Assistant for Environmental Quality, Office of Secretary of the Air Force, Washington, DC, 20330. For your convenience we will mark this address on the blackboard so that you can copy it down during the recess if you so desire. In addition, in view of the controversy over the environmental impact of the proposed action, the Air Force has scheduled these hearings during the comment period. After the Air Force has analyzed the comments and the transcripts of the public hearings, it will prepare a final environmental impact statement that takes into account and is responsive to the statements made. The final statement will be used in the process of reaching a final decision.

My role in this proceeding is simply to conduct a hearing. I will not make a decision or offer recommendation on the proposal. Today's proceedings will be recorded by the lady on my left, who is a qualified court reporter, and we also have back-up tape recording.

The purpose of the hearing is to gain an understanding of the feelings and opinions in this area concerning the environmental impact of the proposed locations. It is an informal hearing; this does not mean, however, that we sit and chat, pleasant as this would be from my point of view. There are too many people present, and the court reporter would find it difficult to make a record. Informal is a lawyer's term for a non-adversary hearing, with no cross-examination to prove the truth or falsity of statements. Rather, we want to hear from individuals in the area and how they feel about the environmental impact of the proposed action.

MAJ SCHMIDT: The ground rules for this informal hearing are few and simple. The hearings will be opened by a representative of the United States Air Force Systems Command who will give a short description of the project and its environmental impact as seen by the Air Force. Immediately afterwards there will be an opportunity for clarifying questions from the floor. This is to assure that everyone is clear on what the Air Force proposes. I cannot allow argumentative questions, leading questions, statements disguised as questions, or other forms of cross-examination. They are entirely proper in a court of law but not in an informal public hearing. Therefore, please feel free to ask questions but limit them to those of a clarifying nature about the presentation. If you have comments to make, the time to make them is during your own presentation. To ask a question, please go to the head of the aisle where there is a lectern, and if there are several people waiting, please stand in line and wait your turn and wait to be recognized. When asking a question, it would be helpful if you would give your name and address for the record. After the questions to the Air Force, we will take the speakers. Speakers representing groups may take up to thirty minutes for their remarks. Individual speakers may take ten minutes each. After this, we will hear from anyone who signed up at the door, and I would ask anyone that makes a decision to speak, please register with the clerk at the door so I may know in advance who would like to make a statement for the record. We will take a recess after the question and answer period so that I may pick up these sheets. You have until then to sign up. Please note that you do not need a prepared statement. Feel free to speak off the cuff if you have something that you would like to see included in the record. In addition, any statement made on the place provided on the attendance sheet will be included with and appended to the record of this proceeding. When you come up to the lectern to speak, please give your name and address and whether or not you are representing a group. If you are representing a group or agency, please specify the group or agency. The gentleman to my left will act as clerk in this hearing. He will be keeping track of time and other administrative details. If you have any written statement or other material that you wish to have included in the record, please give it to him, and he will mark it appropriately.

The first speaker will be Lieutenant Colonel William A. Hobgood of the Air Force Systems Command. Colonel Hobgood.

COL HOBGOOD: I am Lieutenant Colonel Hobgood, Deputy Control Director for the Continental United States, CONUS, Over-The-Horizon Radar Program. I will be presenting you a brief overview - can everyone hear me? I'll be presenting an overview of the program to reinforce your present understanding of the program.

First of all, over-the-horizon radar is a technique; it's not new. It has been dealt with in the form of test systems since the '50s. A little discussion of the technique that is employed.

COL HOBGOOD: First of all, we have here the curvature of the earth depicted with an aircraft approaching, presently hidden by the curvature of the horizon itself from the radar shown. Conventional radars, these would be the types you would normally think of seeing a large sphere that houses a radar antenna or radome - conventional radars operating in the thousands of megahertz are limited to line of site transmissions and reception. That is, if this were a conventional radar, it would have to skim the surface of the earth, and its transmissions would go in a straight line penetrating the ionosphere and continue into space. They would not curve around the earth's surface and detect the oncoming aircraft. HF radar though, high frequency radar, using the transmission frequencies in the band approximately 5 to 30 megahertz, have the property of not penetrating the ionosphere if properly directed at the ionosphere. Instead, directed up toward the ionosphere, they will be refracted or bent back toward the earth's surface. Some of this energy, should there be a target in the area, will be bounced off the target and by return path back again, bouncing off the ionosphere, and to the receiver to permit detection of this aircraft. As I said, the technique itself is not brand new. However, testing that has been accomplished to date has improved the state of the art to the point that we have been directed to come up with an over-the-horizon radar system to provide detection of aircraft for defense of the continental United States. As I started to say earlier, and I've said it several times I notice, it's not a new technology, but the tests to date have been performed in the lower latitudes, known as the lower geomagnetic latitudes, and essentially what that means is they are southerly or away from the polar area or the auroral ring that surrounds the pole. Testing in these areas indicated as Area 1 has proven to the OTH community that there would be very, very little technical risk in trying to deploy a full-scale, over-the-horizon radar in Area 1 and away from the auroral range. The cause in the Area 1 is depicted. The ionosphere is very well behaved, thus very predictable, and this black box as you might call it, becomes a member or part of the system itself, is predictable, leaving you little technical risk.

When you move into Area 2, however, and that is that your radar is outside the auroral ring and trying to look either askance of it or directly into it, presents different problems. This auroral doughnut is not always detectable, and therefore the exact probabilities of detecting aircraft are not known. The percentages of the times you would be able to, are not precisely known.

Our direction is this: to provide over-the-horizon radar as a defense means by detecting potentially hostile aircraft approaching continental United States, but to go about this in three phases. Phase 1, to acquire and test a prototype over-the-horizon radar for one year, that is test it for one year, in the area of the auroral oval, such that a determination can be made whether or not it is feasible and practicable to employ a full-blown, operational system. That is Phase 1 of the program.

COL HOBGOOD: If indeed, and we're very confident that it will, those of us in the program, if indeed this does prove feasible, Phase 2 then would be expansion of the prototype. Or you might think of it in terms of test radar, expansion of it into a fully operational system on the East Coast. Phase 3 would actually go in parallel with Phase 2, and that is construction on the West Coast, State of Washington, a near image you might say, a full-scale, operational over-the-horizon system on the West Coast.

Now, where to locate the system. Would you go back to 1 again. A question arose last night, and I'll just go ahead and play like it was asked. It is obvious here we have two Area 2s, the State of Washington and the State of Maine, where you could operate in the proximity of the aurora. Why Maine instead of Washington, and a very good reason, one of the strongest ones is the fact that the heavy northeast corridor air traffic that comes in from Europe constantly provides almost a 24-hour a day airborne fleet of aircraft that provide targets of opportunity that you don't have to go to the expense of having aircraft flying totally on your behalf, to run your tests during the year. The aircraft density is not nearly so great on the West Coast. This is one of the biggest reasons.

Let's go back to selection within the State of Maine. First of all, the technique that's being employed for this radar is called FM/CW, frequency modulated, continuous wave, and I'll just say that using this technique dictates that the receiver site and the transmitter site be separated from one another by approximately 100 to 125 nautical miles. So first let's look at the selection process for the transmitter site.

In the environmental impact statement we have all the parameters or all of the arguments that have to be used in the selection. One of the first is the fact that the transmitter must be located 5 miles outside of established airline corridors. I don't have it on the list; I'm sorry I don't, the airline corridors - you'd see this reduces in the State of Maine that terrain that could be used for a transmitter site considerably. In addition, the transmitter need be located in a relatively remote area, such that the interference that it may have with humans or other communication systems be minimized. It's such considerations as these that led to the selection of a site approximately eight miles to the north of Bingham or Moscow, a little bit south of Caratunk as the preferred or proposed transmitter site.

COL HOBGOOD: As to the receiver site, as I said, the receiver and transmitter need to be separated from one another by approximately 100 to 125 miles. In addition, the receiver, at HF frequencies, although literally that's a high frequency - high frequencies, or, rather, low frequencies, correction, but at these lower frequencies, antenna structures become larger. We will have rather large antenna structures, at the receiver site especially. So as a result, the receiver site, its separation from the transmitter, the requirement for rather large, flat terrain, and also the requirement that it be in an area where it has a clean environment, that is, there are not ten zillion other communication systems shouting noise into this air all the time so that it is relatively a quiet environment - all these considerations led to the selection of an area in the region of Montegail Pond and Township 19 as the proposed receiver site.

Going back to the transmitter site for a moment, this is zeroing in on the transmitter site itself. This is the town of Moscow right here, Wyman Lake, and approximately 8 miles to the north, northeast, the location for the transmitter. As I said earlier, Phase 1 is to develop a prototype or a test radar. The shaded area here represents the intended location for the prototype, approximately 340 acres. The heavy outline around here represents the remaining 840 acres that would be required, totalling 1180 acres for a full-blown operational, radar system. These dash lines here represent some presently existing logging roads in the area, if you can call them that. We were walking on them yesterday or the day before and -

To the receiver site then, in Township 19MD, Montegail Pond highlighted here, again restate one more time that we will first have a prototype radar site. The preferred location for this has been selected as what is shown here as Plot A. Plot A is a 500-acre plot of land that has about five present owners involved. It's 500 acres; however, the largest antenna that we might envision that would go on the land would require a maximum of 310 acres. Now, why the 500 if we only need 310? We must give that contractor who wins the competition to be awarded the contract, some flexibility once we have told him where we would like the receiver antenna to be constructed - some flexibility in orienting it for his foresight and aiming it and shifting it around to meet the needs of his design. At that point, once that's determined, all we would be interested in buying is 310 acres not 500. Now, that's for the maximum size antenna that might be proposed. Plus B, C and D represent the preferred locations for the operational system or the remainder of it. This would become one portion of the operational system. Certainly some refurbishment of the qualifications would be required of it, but then B, C and D would see other antenna structures similar to the one that was in a putout to build the entire operational system. That's about all I'm going to say on the program or the over-the-horizon radar system itself.

(in HBGCD) Now I'd like to just mention a little bit about the environmental impact statement process. We are required to prepare an environmental impact statement that gives you some information on the project itself and also its impact on the environment on the community as we see it at the time of writing. We have done this, and this statement after approval by the Air Force is placed in the hands of the public for comment. This was done formally on 9 August. It's out for comment for a period of 45 days as Major Schmidt has already mentioned. The end of this 45-day period occurs on 23 September. During this 45-day period, if it is deemed appropriate by the Air Force, if there is controversy especially involved in the project, then the Air Force conducts informal public hearings in those areas again being appropriate to gain the comment of the people in the know. It was deemed appropriate and we're here. First we had hearings the night before last in the transmitter area, Moscow; last night at Harrington, the receiver location area; and today in the State Capitol.

Once these comments come in, after the 23rd of September, we'll be taking the meat of these comments and then revising the draft environmental statement into what we would hope to be the final draft environmental statement. Once this has been completed and approved by Air Force - when I say "by Air Force," don't be confused. I'm simply a member of the Air Force, but specifically I am a member of a program office within one of the commands of the Air Force. It's the Secretary of Air Force level we're talking about that approves the final draft environmental statement. Once it is approved to go out again, it will go for 30 days for comment. Eventually a final draft environmental statement will come into being, and at that point we will request permission to purchase land, not before that time, and given the permission to buy land, we will set forth to purchase same.

The document itself that probably most of you do have copies of, concerns itself - these are some of the environmental impacts that are addressed in it, first of all, RF energy. Now this applies both to the propagated energy as it might affect human beings and animals, living things, as well as the manner in which it might affect or impact upon other communication systems. Keep in mind that the transmitter site is the only location at which there is transmission of RF energy, and at that site we will be fencing in the boundaries that would encompass all the hazards to humans who are unfortunate enough, or fortunate enough, to be provided with or to wear heart pacemakers.

Air pollution - the prototype sites will not have power plants constructed on the property. When we come to Phase 2, which is the only other phase that affects the State of Maine, when we go for the operational system, a standby power plant will be built at the transmitter site and one at the receiver site, and I say standby - the site is intended to operate on commercial power, and the standby power plants in a system like this are there to support, keep the system going in case

or commercial power failure. These power plants will have exhaust systems and would have the opportunity to pollute the atmosphere if not prevented, and the exhaust from the power plants, of course, will be muffled and will be filtered.

COL HOBGOOD: Foliage and soil - soil at the transmitter site first, about 20% of the prototype site is expected to require total clearing. That's about 70 acres. An additional 20% or about 70 acres would require selected popping of trees out of the main beam of the antenna, to get a clear shot in the direction of propagation. Where land is cleared, soil stabilization techniques will be employed to prevent erosion.

Water pollution - we will abide by all state or local laws governing water pollution. Primarily in this case, the water used will be for personal consumption. The majority of the water will be used for cooling equipment. This is primarily at the transmitter site.

Socio-economic - a big one here, and at this point I would like to turn over the floor to Lieutenant Colonel Donald Stukel, the Assistant Program Director for CONUS Over-The-Horizon Program. He would like to address the subject of economic impact.

COL STUKEL: At that previous meeting we held in late August at both the transmitter and receiver sites, one of the questions that came up was, can you do a more comprehensive job of laying out the negative and positive economic aspects of this program - in terms of, for example, at the receiver site some blueberry land will be taken out of production based on the proposed site. They wanted us to ascertain what would be the loss due to that. We were also asked to ascertain what would be the positive acts to the community by jobs and grades, these kinds of things, by the establishment of this radar site in the proposed location.

What we have done is tried to look at the positive environmental impact through the vehicle of the payroll. There are many different ways you could look at it. You could look at it through the payroll, through the amount of local purchases that would be made in these constructions. Each of these has pros and cons and differ in the relative difficulty. The payroll one is probably the easiest to understand, perhaps the one you can do most accurately. All I would say is this is something that is accurately forecast but beyond that we can all comprehend the fact that we're building a building there, for example, which we would be doing at both the transmitter and receiver sites; we're going to have to buy things like concrete, all building materials, and it would make sense that those would be purchased locally, and you can see with the influx of people, the impact that that would have on local business, hotel and motel, these kinds of things.

Col STUKEL: We have not attempted to quantify that, only the payroll. This happens to be for the receiver site, and we'll show it for the transmitter site and the operation site. What we have done is broken the program down into various phases: Phase 1, the prototype; Phase 2 being the operational system when you expand. Then we have indicated the years and the type of activity going on - construction which would go on over approximately a two year period of time, installation, and tests. There is some overlap in these, of course, but we've just clarified it here in terms of the function that is going on. We attempted to look at the skills which were available in the particular communities and tried to determine which skills are present and which ones would be likely to be used in this effort. So based on the kinds of skills that are available, we determined what we think is a good estimate of the number of local people who would be employed, people who currently live in these communities, and then the number of people that would have to come in from other areas, with special skills that were needed. For example, electronic technicians - there's not a high concentration of this kind of skill in either of these areas. They will have to come in from somewhere else, maybe somewhere else in Maine where these skills exist, or maybe they will have to come in from out of state. This is really up to the market. So what we have here is, this represents the number of local people we anticipate would be involved, the number of people that would come in from other areas, either from different parts of the state or other states. Then we have estimated here based on daily wage rates in each of these areas, the typical salaries these people would receive. This would be for local people, other, and the total. Since construction is not anticipated to start until the middle of 1975, these figures here will be figures for the half year. You can see the kinds of payrolls in thousand dollars we would anticipate during the various phases. Some of these people in the other category essentially come into the state for the duration of the program, people like site manning, and this kind of program. Other people would be in it for a given phase. You would have different type people for the installation, with a specialized skill. Some of them would remain for both phases, and some just for one of the particular phases.

When we get to the operational system, we put these all on a per year basis, just to give you a feel what these would be. The one that has the long term effect is the last line in the operation. This is what we anticipate would go on for some 15 years. So you see here we would anticipate about 20 people who do not exist in those areas now with the particular skills required. I would anticipate that these people here would come in for a long period of time and would become residents. But they don't currently live there, people with those skills. You can see about 40 people with this type of payroll continued for the life of the system. This is for the receiver site.

The next one gives figures quite similar and represents the transmitter site. You can see that the construction costs are larger at the transmitter site, so there is a difference in the figures for the two different locations.

The next line gives the same kind of information for the operation site.

Q. STUDENT: During the prototype phase, the operation site is co-located with the receiver site, so there are no figures involved for the prototype system. That is co-located at the receiver site. When we come to the operational system, then there will be a separate locality for the operation system. The Air Force is in the process of doing a study for this. All tradeoffs have not been considered. Only recently we have learned that Bucks Harbor will be phasing out, and that has made it look more desirable from the Air Force's viewpoint. During the operational phase you can see the type of payroll we anticipate. This is quite similar to the radar function at Bucks Harbor, the facility we now have up there, which is an Air Defense Command radar. They have 120 people on Bucks Harbor doing a radar type function, and their payroll is 125 million at the present time, with about the same number of people. So these figures are the kind of things we are experiencing within the State of Maine at the present time.

One of the other things we were asked to ascertain was the negative impact of taking active, productive, blueberry land out of production. This is not one of the things the Air Force has tremendous skill in doing. So in order to help us do this, we prepared, at the request of the citizens in the community out there, a request to go to each of the landowners involved, asking for certain information from him. The kinds of information we needed to assess a negative impact were things like: how many acres that are involved in the first site location do you have on which <sup>you</sup> are actively producing blueberries; what is the average yield of those blueberry acres; and other questions concerning expenses of employment related to the blueberry activities. Unfortunately, I think we sent out either nine or eleven requests to the various owners, and we only heard from two owners. Both of the owners responding to our questionnaire said they had no active blueberry land currently in production in the area under concern. So we were kind of robbed of our data base, so what we have done here is based upon information that we received from various people associated with the blueberry industry, mainly from the University of Maine. There is some difference in our figures here, and I don't claim that this is the best assessment of the negative impact of taking blueberry land out of production, but we felt we had an obligation, and based on the information we had, here's what we came up with, and I will show you a couple of questionable areas in it as we go through.

For the prototype system, the maximum size of an antenna that we anticipate to be going in there is approximately 310 acres, so for the prototype we anticipate we will be taking 310 acres out of production. Of that, since it's on a two-year cycle - every other year you burn it, so you only harvest half of it each year - 155 acres, or half of it, will be harvested. Based on the ability of a picker to pick a certain number of bushels in a given day, in the amount of time the pickers were actively involved in the operation, we estimate that there would be 24 pickers that would lose their part-time, summer jobs. Then we tried to qualify this in dollars over and above the wages lost by the part-time employees, the pickers - there are some other wages involved doing such things as spraying, tending the bees, and normal other operations concerned with the blueberry industry -

when you put all these together, you come up with a wage figure based on the 310 acres of \$23,000. Then there are some farming materials that are needed in the operation, fertilizer, etc. This is based on some state figures that we received - \$8,000. Then if you look at what the cash value of the crops raised on those acres is, you have to first determine what is going to be the average yield of the acres, and you need to know the price for which it is sold. The state average is about 20 bushels per acre. These are better than average acres. We used a figure of 30 bushels per acre. I think there are people who will contend that is slightly low and perhaps it should be 35 to 40. We did use 30.

COL STUKEL:

The next thing that's got to ascertain to get the gross yield is the price. The price varies. Last year the field price was 26¢ per pound; this year it's 68¢ per pound, and in the past it has been higher. We used 33¢ a pound which is quite high. We came up with a cash value of the crop that comes off the field of \$69,000 for this amount of land. If you would simply subtract off from what you sell for your expenses, we came up with \$38,000 as the net yield. We did that for the prototype. And the operational system, it's really - you have to take three more phases of the antenna into consideration, and you can see how these figures are essentially multiplied by four. Now this is an assessment of it. I don't claim it is the most accurate. I felt we had a responsibility to the people in that area to take a stab at it. Given the date we had, this represents our effort. I do not claim that is anything that represents the best estimation of negative impact.

One of the other things that came to our attention as we went through this process, and I spent at least half of my time in the last three weeks actually in the State of Maine, discussing this with numerous local groups - it came to our attention that there was considerable opposition to the sites that we selected that are in the environmental statement. The fundamental concern was at the receiver site. The transmitter site, the people were quite satisfied with what we proposed. But at the receiver site the concern was that we were taking too many acres of productive blueberry land out of production. We realize that this is a give and take trial. What we were trying to do is to achieve some balance between the corporate interests of all the citizens in the country, which we are their representatives because we're spending their money trying to get the balance between the corporate interest and all the citizens, and the interests of the citizens in the local area, because what happens is we go to a less desirable land, essentially the cost of the program goes up - we don't get a flat land which costs us more to get it flat enough to build the radar system. So we're trying to strike a balance between the local interests and the interests of the public in general.

COL STULL: But it was the opinion of the local citizens out there that we had struck the balance too much in favor of the corporate group and not enough in favor of the local citizens. So we announced again last night that we were willing to compromise on a proposed site location since we changed those to a different set of sites which would be considerably more accommodating to their concerns. That's what I would like to show you now.

The Air Force is trying to strike this balance; it's not an easy balance to strike. These are the sites that are in the draft statement. Working with the landowners and various citizens groups up there, we have arrived at a compromise that the Air Force essentially proposed to the people up there. We feel this is something that we could do and perhaps strike a better balance between the interests of the local group and the corporate interests. This particular Site A here, which was to be the original preferred site for the prototype, according to the residents of the area is perhaps the most productive piece of blueberry land in the Montegail Pond area. According to them, it also has the greatest potential for future improvement due to the fact that it is situated well with respect to Montegail Pond and <sup>they</sup> anticipate they will move in that direction and intensify the cultivation of this particular subject. So their primary concern expressed to us at a general meeting held on 27 August was that this was the site we were impinging the most upon on the blueberry industry in the area. So what we have proposed to do is a compromise solution that we discussed last night with the people in the area, is to move out of this site. Instead of building the prototype here, we would build the prototype on this area here. This is still blueberry land; it is not as good a blueberry land as this, but it is still blueberry land. We would push the site as far as we could into this rougher terrain up here, to maximize the farmability of the land on this site. We would still keep Site B, as we call it, in the same place. The difference in the red area and the box area is the difference between the 500 acres and the 310 acres we discussed earlier. We would keep the B site the same. We would move one of the sites into the bombing range. This is the area which is a non-blueberry area. It is an area the Air Force has used in the past for a bombing range. This is the area the local residents wanted us to move into because they considered it non-productive. This is considerably rougher land, and it would cost the Air Force and in turn the U.S. citizen a considerable amount of additional dollars to move into this area because we would have to spend more money on site preparation. The site preparation is really the major cost as we move around in these various areas. For the particular kind of antenna we have to have a piece of land that is relatively flat. The antenna itself is about 6,000 feet long, so you need a very long, flat piece of land. The reason for this is the ground itself acts as part of the antenna. It is essential to achieve the performance we need that we have this flat land. It either needs to be flat, or flat tipped slightly in the direction of the propagation, that the energy is coming in.

COL STUKEL: We have suggested to them that we can move one site to the bombing range. We had to re-orient these two sites up here slightly. As you can see, as a matter of fact we are pushing them farther out of the good blueberry land. This is not blueberry land; it is the bombing range. This one in the barrens area is not blueberry land. These two are still in blueberry, but not as good a land as this.

As part of this process of trying to work out a combination, we have informed the citizens of this. I think they felt this was a very positive move, from the Air Force's point of view, that we were accommodating their interests. I'm sure that some of the blueberry owners would like to see us move farther, but it's the process of trading off the cost, and that process will continue.

Only one last thing I would like to say before we go to your questions, and that has to do with the dialogue. We have a well-established dialogue with the citizens in the transmitter and receiver areas. We in effect are part of their community. All of our activity essentially involves communication with them at this point in time. It is a give and take kind of relationship. As we go along with this building at the proposed site area, this dialogue must continue because there's a lot of information in both areas that is very useful to us. So we will continue to work with the local citizens groups and the various owners as we go through this process to make sure our continued efforts accommodate their concerns to the maximum extent possible. The same thing applies to the state agency. We anticipate over the next few years, year and a half, the kind of dialogue that we have established with the state agency will continue and will grow in depth and expand. There are a lot of questions that I'm sure the state agencies will have for us this afternoon that given the state of our design efforts, we do not have total and comprehensive answers for them, but over the next year or so we will continue to work with the various state agencies concerned in a continuing dialogue to provide any information they need to do their job, and hopefully they will feed back to us the information that we need that will help us to do a better job and be more accommodating to all concerned. I am merely making a commitment on behalf of the Air Force to continue this dialogue that we are involved in now. This is not a one-shot affair. We're not going to come up and talk to the citizens of Maine, to the various state officials, this month, or next month, and then forget about it. We anticipate being neighbors of yours for the next twenty, twenty-five years, and we expect to continue the dialogue with the various groups over that period of time. Thank you.

MAJ SCHMIDT: Thank you, Colonel Stukel.

QUESTIONS

MAJ SCHMIDT: At this time it would be proper to entertain questions from the floor. Anyone having a question, I would ask that you come to the lectern on my left, give your name and your address, and address your questions to the members of the Air Force who are present to answer them.

J-1 MR. MAIRS: My name is Don Mairs. I'm representing the Board of Pesticides Control which is a member of the Maine Department of Agriculture. I notice that the environmental impact statement did not address in any detail the question of vegetation management at the sites. In talking with Colonel Hobgood by telephone, he referred me to a gentleman whose name I believe is Mansfield - is that correct - and I spoke to him about the possibility of herbicide use at the sites. I was advised that this was a probable means of vegetation control but that at that time no decision had been made as to what would be used or how much. I'm wondering if the Air Force has an answer to that question as yet.

COL STUKEI: With an antenna built on that land, we would have essentially the same kind of problems in controlling vegetation that the blueberry growers have at the present time. We would have essentially two options, or a combination of two options, to control that growth. We have a relatively low antenna, four to seven feet off the ground; we don't want brush growing up through it. So we could control it by two methods. We could use the same types of products that are currently being used by the blueberry growers in terms of chemical and in terms of mechanical means. We could continue that; that would meet our requirements. If that is unsatisfactory, the Air Force could use purely mechanical means to control growth under the antenna. This is the kind of problem that we need a feedback from you. If you consider unsatisfactory for the Air Force to continue the same operation that is currently going on out there, then we would want to talk to you about it, and we would be willing, if you felt it necessary, to go to purely mechanical means.

MR. MAIRS: In other words, you do not anticipate any radical departure from the pesticide practices that are being carried on there now?

COL STUKEI: None whatsoever.

MAJ SCHMIDT: Is there anyone else who would like to address a question? Any further questions? State your name and address for the record.

MR. STURTEVANT: My name is Thomas Sturtevant, and I live on 10 Eleventh Street in Augusta. I just got in a little late and I didn't hear everything by the Colonel here. I happened to pick up a couple sentences here in the statements that were made. Was this scheme similar to one, this radar scheme similar to one that was turned down by the citizens of Wisconsin a few years ago?

COL STUKEL: No. That was a Navy system for an entirely different purpose than this.

MR. STURTEVANT: You say this is a sort of give and take deal. Is there any chance that you will not take it all? This is a give and take - in other words, you will take some land and you will adjust to what the local citizenry want. Is there any chance at all that you will not build this thing?

COL STUKEL: I think there is almost unanimous support within the communities with the representative leaders of the State of Maine, senators and congressmen, that this system should be built and will be built. The essential question that is under discussion is the exact location of the radar. The transmitter site received the unanimous agreement that a good site should be built. The receiver is the matter of working out this accommodation between the local interests and the greater corporate interests.

MR. STURTEVANT: I was reading this morning's paper, and I read an article by Mr. Cummings, a reporter, and he said something like this being a supplement to the DEW Line, the one up in the Arctic. This is a supplement - is that correct?

COL STUKEL: This system does not look straight into the auroral zone. It looks out on the edges of that, essentially looks east and west, and covers the edges of the aurora.

MR. STURTEVANT: What would be the - are the Canadians building a supplement to this?

COL STUKEL: To this system?

MR. STURTEVANT: Yes.

COL STUKEL: There is under consideration a replacement for the DEW Line. The DEW Line sites may be replaced sometime in the future. They are looking into the feasibility of building this same kind of a radar looking into the Arctic. Because of the auroral problem in the North, there is some question of the feasibility of putting this exact same kind of radar looking north. That is being studied. No decision has been made.

MR. STURTEVANT: I see. They're going to change the DEW Line? They're going to modify it or something?

COL STUKEL: I don't know exactly how old the DEW Line is. I think the DEW Line is rapidly approaching the point in time when it is going to have to be modified or upgraded. They're looking ahead to the time when that system has run out of its useful life and what are they going to do then, what's going to be the replacement.

MR. STURTEVANT: Could a similar thing like this replace the DEW Line?

COL STUKEL: That is the question that is being studied.

In the Arctic region you have what is essentially a high magnetic, density, plasmic area that surrounds - kind of a dome that goes around the North Pole, and within that area you have difficulty with the reliability of propagation of the energy from this kind of a radar. They are trying to investigate the feasibility of using this kind of a radar in that area. There is less certainty that it would work in the North than in the regions facing essentially east and west.

MR. STURTEVANT: That DEW Line is pretty much on snow and ice - is it? It's not?

COL STUKEL: Tundra, tundra is the correct word.

MR. STURTEVANT: You say the Canadians are undertaking a study of this possible supplement?

COL STUKEL: The DEW Line system, the question of the follow-on system of the DEW Line - I would anticipate it is a joint U.S./Canadian question.

MR. STURTEVANT: See if I get you right. If the Canadians are considering something like you're going to have up there as a supplement, why would we have to have it?

COL STUKEL: We have a joint defense command, NORAD, which covers both the United States and Canada for area defense. The radar sites that exist today fall under NORAD. They are a joint United States/Canadian enterprise. You have to put in the North a radar system similar to that to protect airplanes coming over from the Arctic, and I anticipate that that would be a joint U.S./Canadian venture.

MR. STURTEVANT: Do you think it would be wiser to put off putting the site in Maine if there is perhaps going to be a supplement similar to this with a joint U.S./Canadian effort? I'm saying you do this alone?

COL STUKEL: I went through this before you got here, with Bill Hobgood on the subject. I think that was explained to us.

COL STUKEL: Let me put one view graph back on here. It is something that I did not address because I didn't consider it germane to the issue here.

COL STUKEL: This gentleman wasn't here when you went through that.

COL HOBGOOD: OK. Well even to those here, I can see there may be some confusion as to - the same question could have come up from others. I talked about what I call Area 1, which is all this area away from the auroral oval - Area 2, outside the oval looking in, but I didn't talk anything about Area 3 with them, the auroral oval as Colonel Stukel was talking about, this highly magnetized plasma that creates something known as polar absorption to the energy. It is something different. The environment in which you are operating in Area 1 or Area 2 or Area 3 is entirely different. Now take the DEW Line - the DEW Line is something that's up in here looking this way. OK. We're not talking about the system up in there. We're talking about something that does this, and out in here that does this. Now, supplement the DEW Line in a way, yes, by closing the ends up in here - I'm gettin' in trouble here. Let's say, up in that particular area. But to replace the DEW Line whether or not the DEW Line itself could now be replaced with a similar system that looked this way, I'm sure it is being considered.

MR. STURTEVANT: It is being considered?

COL HOBGOOD: I'm sure it must be.

MR. STURTEVANT: Do you think it is wise to have this and go ahead with this thing in Maine if it is being considered?

COL HOBGOOD: First of all, it would be another radar covering an entirely different area. That's the point, plus what I was trying to point out - the radar that we're talking about putting in Maine, even once it is operational, will not cover the same area that the DEW Line does. It does not replace the DEW Line.

MR. STURTEVANT: Goes further east and west?

COL HOBGOOD: Yes. It would require a third radar concerning replacement.

MR. STURTEVANT: Is Iceland a member of NATO?

COL STUKEL: I believe they are.

MR. STURTEVANT: Why couldn't NATO forces construct one on Iceland?

COL STUKEL: One of the difficulties with that kind of construction is that you wouldn't have continuous coverage of an airplane coming into the United States, and the airplane got essentially to Iceland; then you would lose him, until he gets to the United States. This kind of a system allows us continuous coverage of the airplane. This doesn't look at 360° a given radar does.

MR. STURTEVANT: Supposing they were coming towards Iceland. Couldn't you also have that antenna directed toward the United States to keep him in view?

COL STUKEL: Then you would have to build a 360° antenna which would be at least twice as expensive as building a 180° antenna.

MR. STURTEVANT: Let's take Greenland. Could you put one on Greenland?

COL STUKEL: You could if you put a 360° segment over there. From Greenland on in, you would have no cover.

MR. STURTEVANT: With 360° you could have cover?

COL STUKEL: That's right. It would cost twice as much, with 360°.

MR. STURTEVANT: But you wouldn't be taking any blueberry land out of cultivation.

COL STUKEL: That's right. To put it in Greenland, I'm sure the difference in cost would be considerable.

MR. STURTEVANT: Did you estimate it would be twice as much?

COL STUKEL: No. I said it would be twice as much with the Greenland that has a 360° system instead of a lesser system in the State of Maine.

MR. STURTEVANT: Do you think that would be a good trade-off considering the price the blueberry farmers would get over the years?

COL STUKEL: No, I do not.

MR. STURTEVANT: That is it - \$65,000 a year?

COL STUKEL: \$38,000. The other fact that you aren't taking into account is, what is the difference in the construction of the site in the State of Maine and the construction on the site in Greenland. All I'm saying is that if you went to Greenland, you've got to build one with a 360° coverage. Even if you build one with less coverage than that, the same coverage as Maine, the construction cost would be quite different. The cost of maintaining, the manning, these kinds of things, would be considerably larger.

MR. STURTEVANT: Are any other nations closer to the enemy, quotation marks, building radar things like this?

COL STUKEL: Of this type?

MR. STURTEVANT: Yes.

COL STUKEL: Not to my knowledge.

MR. STURTEVANT: Why is it that Americans somehow feel the need of having this: people that are living closer to the enemy, they don't seem to be as worried as us.

COL. STUKEL: I'm not so sure that they're not as worried as we are. I have had the opportunity to travel to many of the nations in Western Europe, and I'm not so sure I would agree with your statement that they're less worried than we are. Because of our isolation, the fact we do have an ocean in between, this kind of a system does give us an opportunity to get considerably more early warning than we would otherwise be able to get.

MR. STURTEVANT: How come we've been able to sort of live without this early warning for so many years? This is the first time I was told it would give us an advantage. Haven't we been able to live fairly safely without this? For these years ever since DFW Line was built, we... I mean DFW Line was protecting us... now suddenly, we find out we haven't been protected as well as we should have?

COL. STUKEL: The capability to build this type of system did not exist. This system is based upon technology involved here. People didn't have the opportunity ten years ago - decision makers didn't have the option of building the system because the technological capability to build it did not exist, so it really wasn't a choice that they could consider.

MR. STURTEVANT: Do you think we would still be just as safe without having this?

COL. STUKEL: Without having it?

MR. STURTEVANT: Yes. Would you be more frightened if we didn't have it? Do you think Americans would be more frightened if we didn't have it?

COL. STUKEL: I think this system, due to the fact it would give us earlier warning, would give us the capability to protect ourselves more than we can today. I think that the judgment is that the system is needed and desirable.

MR. STURTEVANT: You think it would make us more secure - is that right?

COL. STUKEL: It would make me considerably more secure. At least we would know that we'll be able to detect them out there away from our continental shores, and we can't now.

J-2

MR. STURTEVANT: What would happen to a bird that flew over, a sparrow, or any little bird, that flew over the radar antenna when the juice was on?

COL. STUKEL: You're talking about the transmitter site.

MR. STURTEVANT: Yes.

COL STUKEL: At the transmitter site, the bird if he just flew over, there would probably be absolutely no effect on him. He probably wouldn't even notice it. If the bird was to come in and nest, there is some question whether his body would get warm and he would fly off, with the energy impending on him. Systems similar to this, similar type power in the past, as a matter of fact a system identical to this with a slightly lower power did exist experimentally in upstate New York. They did not find any evidence of any birds being killed by the transmitted energy.

MR. STURTEVANT: How would it affect their reproductive systems?

COL STUKEL: We have examples from a similar system in the past which showed a bird nesting on the fringes of the antenna, young birds hatching and continuing their life cycles. In terms of whether it did something to there genes, something like that, we didn't follow these for several generations, so we really couldn't answer on that point.

MR. STURTEVANT: I have a little background in the radar in the Navy. They used to tell us, don't stand in front of the antenna - it might sterilize you. If you were near the antenna up there, wherever you're going to put it, would you stand near that antenna with the juice off?

COL STUKEL: No, I would not; given an antenna as specified in the environmental statement, the closer you come in to the transmitter, the more radio frequency energy is placed upon your body. And there are some standards, accepted standards, for the amount a human can take without having an adverse effect. Our security precautions, etcetera are based on these. There is a safety factor on these, of course. I would not go closer than the safety factor.

MR. STURTEVANT: If you wouldn't go closer than the safety factor, what about the poor bird? You're worried about the safety of yourself.

COL STUKEL: Right.

MR. STURTEVANT: What about the poor bird?

COL STUKEL: The bird's physical makeup is far more delicate than ours. I think it would affect a bird - I just don't know.

MR. STURTEVANT: I also recall after I came in hearing after fifteen years - the operating personnel would be there fifteen years?

COL STUKEL: The estimated life after this is constructed and ready to be an operational system - it would be designed for a twenty-year life.

MR. STURTEVANT: Then what?

COL STURKE: By that time it is anticipated that a new technology would have evolved, superior to this, and it would be probably cheaper at that time in terms of a total system. It's like buying a new car - your car wears out, technology develops, and you get a better car.

MR. STURTEVANT: Would you retain the same land?

COL STURKE: I can't anticipate what a different technology would bring. It may be a satellite - I don't know what the next generation will bring.

J-4

MR. STURTEVANT: But you may in twenty or twenty-five years, if a new technology comes along, you may retain the land, or it may revert back to the owners?

COL STURKE: When the land is purchased, it is appropriate for the government to contain a provision that the original owners have first right to the land if it is returned.

MR. STURTEVANT: I feel that no matter what the people of Maine say, this is still going in - is this correct?

COL STURKE: There are two questions essentially. One is whether or not the system will be built. I think there is unanimous feeling with the citizens of Maine I talked with - I talked with representatives of local governments, with congressmen in general, and the federal branch of the government, and the feeling is that the system should be built. What we are involved in is trying to ascertain what particular land it should be built on to accommodate the interested people.

J-4 STURTEVANT: I am really opposed to this whole thing. You mentioned you were not going to be taking productive blueberry land out of production. I believe you said the Air Force is not going to take productive blueberry land out of production.

COL STURKE: I don't believe I said that. In our Draft Environmental Statement we said we were going to take approximately 150 acres out of blueberry production at the very minimum. The citizens of that area thought that was too much, that we should be willing to pay more money using less desirable land, land not as flat. As a result of continuing discussions, we have made a compromise.

MR. STURTEVANT: Thank you very much, Mr. Sturtevant.

MAJ SCHMIDT: Are there any further questions?

Would you state your name, please.

MR. LYMAN: Frederick Lyman, Bureau of Public Lands. There will be a statement by the Bureau read, but I would like to ask four questions which have arisen since the statement was drawn up on behalf of the people in the receiver site area.

MAJ SCHMIDT: All right.

J-5

MR. LYMAN: First, it has been reported to us that because of pressures exerted on the Air Force by local landowners, that an alternate scheme is being considered by the Air Force which involved placing half the receiver apparatus on the Sam Hill Barrens east of the Machias River, and half on land west of it. As you said before, that is indefinite. Moreover and more importantly, I think it would involve bridging the Machias River. Is that true? Are you seriously considering that alternative?

COL STUKEL: Last night at the hearing I was asked - the Air Force has presented a fall-back position; we have a preferred site and we presented what we thought was a reasonable compromise. The question was, if that compromise is not satisfactory, what would you do then. My answer was, the next most desirable area was the Sam Hill Barrens area. Unfortunately it is not large enough for the four phases of the antenna. We could put two phases there. On that side of the Machias River there are no locations prohibitive in terms of cost. This would cause us to desire to put the other two phases in the non-blueberry sites on the other side of the river. We would be forced to have two in the Sam Hill Barrens and two in the Montegail Pond area in non-blueberry land. It would increase the cost considerably for several reasons. The land is not as desirable in terms of flatness. We would have these sites and we would need to build roads. If we don't have a connecting link, then we would have to go 35 miles around to get from one site to the other. If we went to that option, we would have to have these two sites connected.

MR. LYMAN: Could you tell me what you think the chances are this will become an eventuality, from where you stand now?

COL STUKEL: You're really asking me to assess the total public concern. My personal feeling is the compromise solution is a reasonable compromise in terms of total cost and in terms of local citizens. I think it should be an acceptable solution. If it is not, then it behooves us to have something else. With respect to the bridge over the Machias River, I realize it is a recreational area, but access now is very limited. A good road would open it up to greater access by the public.

MR. LYMAN: It was suggested by Air Force on 12 September that it is possible that the economic benefit to Washington County can be enhanced by eliminating the Buck Harbor installation as an operations site as opposed to continuing plans for its location in Topsham. You said that is possibly an alternative, but it has occurred to me that that might be a ploy on the part of the Air Force to entice local residents to accept the receiver site if they can think there will be more benefit with the inclusion of the operational site at Buck Harbor.

COL STUKEL: It is not a ploy. Buck Harbor local citizens have been told that Buck Harbor will be phased out in the next couple years. When it became known to the Air Force, it became much more advantageous to consider Buck Harbor as a facility. Buck Harbor now has 120 personnel; it has existing housing. Everything we need is there with the exception of one large building. In fact Buck Harbor is closer to Montegail Pond than Topsham makes it highly desirable. The decision to phase out Buck Harbor was to limit it to 9 FAA personnel. Once that decision was made, a new resource was available for it.

MR. LYMAN: I was told that of some twenty speakers last night, only two were effectively in favor of the proposal, and their approval was based on the assumption that not only the receiver site but the operational site would be located in Washington County.

COL STUKEL: We would disagree with your assessment.

MR. LYMAN: Is it safe to say more than half the people voiced opposition?

COL STUKEL: Yes - for various reasons.

MR. LYMAN: It has been suggested that the Air Force may construct apparatus that could have different characteristics than the low proposed height apparatus. Such installation might include 250 feet above ground level. Is it true that you are considering, depending on what kind of construction bid you get, installation of a system that would involve a 250-foot antenna; and secondly, must the land be chosen before the contract bids are examined by the Air Force so that the land could be a function of the type of system installed?

COL STUKEL: We on 25 July issued a request for proposal to contractors to bid on the design and construction of this system. In that proposal we specified performance characteristics - you must define an antenna that will meet certain requirements. We have our own estimates of the kind of antenna we want. One of the things we specified was that any antenna you build has to be 6,000 feet long, regardless of antenna capacity. The billboard antenna is one of the least likely to be built. Several of the designs require that the earth be a part of the antenna structure in the sense it is one plan of capacity thing. We have to provide the contractor with land suitable so he has the option of selecting the design. He has to know the kind of land he is building on. The total price of the contract has to take that into account.

MR. LYMAN: I'm sure it is difficult. Does a billboard antenna approach require flat land?

COL STUKEL: It would be much more expensive to build a billboard antenna on the side of a hill.

MR. LYMAN: Disproportionate to the amount of impact that taking the barrens would have? Would the expense be that great?

COL STUKEL: It is hard to qualify. We could reach agreement on qualifying the negative impact of taking the blueberry land out of production. You would have to say what piece of land are you going to build the billboard antenna on, and come up with construction costs and then - I don't believe any one of the contractors proposing on this will propose a billboard antenna. They have that freedom in my judgment. It's not going to happen.

j-6

MR. LYMAN: If it should, do you anticipate a further review process with the local people?

COL STUKEL: As I pointed out, we anticipate we will be in a continuous dialogue with the people. The figures we have given is a maximum. We have to present the maximum. That may be what is selected since the others require considerably less because they all require as long but not as deep. The question is how deep is it going to be. The one that will require the maximum is 310 acres. The rest will require 60 to 100 acres.

MR. SCHMIDT: Thank you for your questions.

Any further questions from the floor?

If there are no further questions at this time, I will recess the hearing for ten minutes. I will reopen the question and answer period shortly after the recess for any questions that come up during the recess, and then we will go into the statements.

The hearing recessed at 1535 hours, 13 September 1974.

The hearing reconvened at 1550 hours, 19 September 1974.

MAJ SCHMIDT: I would like at this time to reconvene the hearing. I will open for a period of time the question and answer session. Are there any further questions from the floor?

If there are no further questions, we will begin with the statements. I will call the speaker's name and ask that he approach the lectern and state his name, whether or not he is speaking as an individual, or whether or not he is representing a group.

The first speaker will be Mr. Philip M. Savage.

MR. SAVAGE: Thank you, Major Schmidt. Before I get into the statement I want to thank Colonel Stukel, Colonel Hobgood, Mr. Mansfield, and all members of the Air Force staff who have worked with us for the last I guess almost forty days now on this project. I'm not going to read all the statement, but I just want to highlight some of the views of the State Planning Office as we see the review at this stage.

At this point of the review of the Over-The-Horizon system, it is my conclusion that to follow only the requirements of the National Environmental Policy Act of 1969, the present procedures of the Air Force will leave the State both short of time and information to adequately analyze all the ramifications of this new and unique Air Force proposal.

In the last five weeks, we have received from State agencies, the Regional Planning Commissions, from private groups, two consistent general comments on this statement. First, the information presented in the Draft Environmental Statement is incomplete and inadequate and, second, we need more time at both the State and regional levels to gather and analyze additional information. In summary, the present procedures of the Air Force under the National Environmental Policy Act leave the State short of information and time.

In a letter to me from Billy E. Welch, Special Assistant for Environmental Quality, Office of the Assistant Secretary, Department of the Air Force, dated 30 July 1974, we are informed that all comments must be received by the Air Force by September 23, 1974. Furthermore, Mr. Welch points out that if no comments are received by this date, the Air Force will assume we have no comments. This, of course, is a false assumption. Moreover, it does put the State in a very narrow time straightjacket and really seems to end, perhaps on a legal basis, any continuing review and dialogue on this proposal. We will get comments to the Air Force by 23 September, but they will, of course, be incomplete.

I wish to add I was very happy to hear Colonel Stukel's strong assertion that he will continue to work with us. In the rest of my statement, I do call for this continuing dialogue, and I add also there is no doubt in my mind that the Air Force has acted responsibly and legally under the provisions of the National Environmental Policy Act, but I do add there is another important law and directive that I think pertains directly to this issue and will provide the basis and authority for this continuing dialogue.

MR. SAVAGE: I refer to the Intergovernmental Cooperation Act of 1968, the latest version of its implementing directive, Office of Management and Budget Circular A-95 of November 13, 1973. And I have submitted to this hearing, Major, a copy of this directive and a supplementary explanation of this from an official of the Office of Management and Budget.

Part II of this Circular, which I will not get into in detail, deals with direct federal development, requires all federal agencies engaged in direct development of federal projects must consult on a continuing basis with state and local governments that might be affected by these projects. Most appropriately, this includes all federal projects such as federal service work, military, and I underline military, or scientific installations in public buildings. If projects are not in conformity with state, regional, or local plans, that federal agency will be required to justify any deviation or departure from these plans. Section 2 of Part II dealing with coordination of direct federal development projects lists three specific requirements which I will not go into in detail, but they refer to consulting with governments, state and area-wide clearing houses; they set forth assurance that any federal plan or project is consistent or compatible with state, area-wide, and local development plans and programs; and third, providing state, area-wide, and local agencies which are authorized to develop and enforce environmental standards with adequate authority to review such federal plans.

The limitations of time and information up to now have not permitted the State of Maine to meet these objectives of the Intergovernmental Cooperation Act of 1968 and this directive of the Office of Management and Budget. Therefore, and again I am perhaps prejudging the statement that Colonel Stukel made earlier, I recommend very strongly that the Air Force continue the dialogue on this proposed radar system, and I want to reinforce some observations made earlier that we have a chance to work very closely with either the prime and also the secondary contractors on this project because it seems to me, from analyzing the proposal, some of the details and the ramifications will not become clear until the contractor is selected and he starts working and developing within the general guidelines of the Air Force. Thank you.

MAJ SCHMIDT: Thank you, Mr. Savage. The matters submitted by you will be appended to the record.

The next speaker is Mr. Clayton F. Davis, State of Maine, Department of Agriculture.

PERSON IN AUDIENCE: He stepped out.

MAJ SCHMIDT: All right. We'll pass on him. When he comes in, let me know please.

MAJ SCHMIDT: The next speaker will be Mr. Richard Barringer, Deputy Commissioner, Department of Conservation, State of Maine.

MR. BARRINGER: Thank you, Major. First let me apologize to your court stenographer for the quality of the reproduction I have just given her. Our IBM system failed this morning, so we had to revert to manual.

I am speaking on behalf of the Department of Conservation which includes both the Bureau of Public Lands and the Land Use Regulation Commission. I as well as Mr. Savage have been gratified by the reasonableness and responsiveness of the Air Force in this matter although I am concerned that communication doesn't necessarily share in decision making, and I am hoping that factor will be met.

Both as a proprietor of part of the proposed OTH-B receiver site and as an interested party in the future of the Machias River Watershed, the Maine Bureau of Public Lands very frankly has very grave misgivings about the Revised Draft Environmental Impact Statement submitted on July 30, 1974.

The government of the State of Maine is, of course, anxious, insofar as it is able, to support the legitimate defense needs of the nation. And we are aware of our special geographic advantages to the Air Force efforts in this case. We believe moreover that if the Air Force estimates of OTH-B's economic impact are correct, if they're correct, this infusion of dollars can have the beneficial impact predicted by the Air Force. However, we also believe that Maine can both meet its national defense obligations and retain all of its productive land and natural amenities.

My comments will be directed in three different areas. First, the strategic considerations, while the Bureau recognizes that the final decisions with respect to strategic matters are made elsewhere, we note that the strategic issue was raised by the Air Force itself in the Draft Environmental Impact Statement of July 30. We submit that the Air Force has not made a necessary and sufficient case for the proposed OTH-B radar system. That is we aren't convinced that it should be. In fact, we respectfully question the necessity for "a significant increase in warning time of the approach of unidentified aircraft" by the means proposed.

First, we question the strategic necessity of more sophisticated aircraft approach warning systems when it appears that the nations from which we could reasonably anticipate an attack are not investing heavily in modernization of their inter-continental bomber systems.

Second, we question whether in the event a reasonable determination of an intercontinental bomber threat is made, satellite warning systems could not provide an even greater increase in warning time than the proposed OTH-B radar system.

MR. LARRINGER: In the Revised Draft Statement, the Air Force notes this project has been eight years in the planning stage, during which time the size of the USSR intercontinental bomber force appears to have diminished, and the capabilities of US reconnaissance satellites have improved. Consequently, the justifications of 1966 may well be irrelevant to the strategic situation of the late 1970s and 1980s, and this system may well be obsolete before the first shovelful of dirt is turned. But our reservations as to the advisability of this project are not limited to US security considerations alone. They also relate to specific environmental issues raised but not resolved by the Air Force impact statements.

We acknowledge that it is impossible to install the proposed system and permanent OTH-B receiving site apparatus without some environmental effects. At the same time we fully expect the Air Force to take every reasonable precaution to minimize environmental degradation. Until now, the military has not demonstrated a substantial good faith commitment to anticipate and avert such degradation.

Specifically, the Bureau has several questions about the appropriateness of the proposed Township 19MD receiver site location. These relate to the installation's impact on the Machias River Watershed, both in the context of the total ecosystem composition and in the context of its important, near-natural recreational and Atlantic salmon fishery resources. They will remain pertinent even should the proposed receiver site be changed to an alternate location within the immediate area as apparently may become the case. I will address these questions in their order of occurrence upon a careful reading of the Statement. This may not be necessary if you don't think it necessary to have the specific questions at this time. I will be happy to just enter them in the record. They have to do with questions of water quality, the effect of herbicides and insecticides, the economic impact of the income itself, social impact of the facility and Air Force personnel in the area, the impact upon commercial power services in the area, impact upon access roads to the Machias River Watershed, the criteria on which the statement is made that no parks or recreational areas in the facilities in the area was enacted, and the conformance to federal, state, and municipal standards for air, water, and noise pollution.

I would be happy to enter those in the record.

MAJ SCHMIDT: They will be so entered.

MR. LARRINGER: The last thing I want to talk about - first let me go to the question of alternative sites. Assuming that adequate safeguards and strategic justifications for the project can be demonstrated, the Bureau of Public Lands would propose that alternative sites with alternative characteristics receive immediate consideration by the Air Force. I'll skip along on this.

MR. BARRINGER: There are areas of which we are aware in Washington County which combine excessively sandy soil, tree stands of marginal commercial value, and limited water availability. In our view, such an area would be preferable as a receiver site inasmuch as no present employment opportunities would be foregone, and the intrusion of the project on the area's ecosystems would be diminished considerably. We would therefore urge the Air Force to review its site selection criteria and see if another site in Washington County might not better fulfill its needs in this case as well as those of the local citizens and natural systems. The Bureau of Public Lands is ready to assist in that effort.

Finally, it should be pointed out that a major portion of the Moscow/Caratunk site and all of the Montegail Pond site is in the jurisdiction of the Maine Land Use Regulation Commission. The Commission has the responsibility for seeing that land in the unorganized areas of Maine is put to the most sound use and to prevent inappropriate uses of land. As such, the Land Use Regulation Commission has the responsibility for planning, zoning, and development review in these areas. This means that if any decision is to be made by the State on this project, it will be made by this agency in conjunction with the Board of Environmental Protection.

The Legislature of Maine has declared that since 1969 any new development in the unorganized areas of Maine should be guided by the criteria and standards established by this Commission. The Commission is concerned that in this case it may not be able to carry out the mandate of its statute. This would put the Commission into a position of forced abdication of its responsibilities and noncompliance with its own statute.

It should be made clear that at this time the Land Use Regulation Commission is not taking any particular stand on the acceptability of this project. Rather, that decision can be made upon consideration of an application in this regard. It is our intention to see that the environmental laws of Maine are recognized and complied with. Thank you very much.

MR. SCHMIDT: Thank you very much, Mr. Barringer.

Has Mr. Davis returned to the room yet?

PERSON IN AUDIENCE: No.

MR. SCHMIDT: The next speaker will be Mr. Donald F. Mairs of the State Board of Pesticides Control.

PERSON IN AUDIENCE: I think he left the room.

MR. SCHMIDT: All right, I'll pass on him.

MAJ SCHMIDT. The next speaker will be Mr. Frederick W. Lyman.

MR. LYMAN: I have already spoken.

MAJ SCHMIDT: I take it the presentation you made during the question and answer period will be considered as your statement.

MR. LYMAN: Yes.

MAJ SCHMIDT: The next speaker will be Mr. Henry E. Warren of the Department of Environmental Protection.

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MR. WARREN: My name is Henry Warren. I'm the Director of the Land Bureau, Department of Environmental Protection. I have no prepared statement. In fact I hadn't planned on making a statement, but it did seem appropriate to get into the record a brief review of the actions of the Board of Environmental Protection which, as Mr. Barringer noted, has the responsibilities under State statutes which relate to the kind of development proposed by the Air Force.

When initially becoming aware of the proposal, the Board discussed the matter at several meetings, and then authorized the presentation of the following memo to the State Planning Office in fulfillment of its functions under the A-95 process. I would read that in the record if I could. It's dated August 23, signed by the Commissioner, addressed to Mr. Savage, the State Planning Director. This memorandum will confirm earlier verbal statements of the interest and concern of this agency for the above noted project. At its August 7 meeting, the Board expressed the desire to explore the matter fully and participate in any review process which occurs. The Board further requested of the Attorney General a formal opinion as to the applicability of relevant state laws in these areas. Copy of that memo is attached. In any event the A-95 process and the NEPA process for Maine - and we would find any definitive response very difficult without more information than is provided by the Draft Impact Statement supplied to us. In order to expedite matters, it would be most helpful if U.S. Air Force personnel could complete copies of the attached forms relating to site locations of waste discharge. We fully realize that these are not applications and they will not be construed as such. However, the form itself is used for convenience sake. We would be pleased to meet with you or Air Force personnel at any convenient time.

Accompanying that memorandum were several copies of what I just want to call a sanitized version of our application forms for site location and for waste water discharge in the State of Maine - sanitized in the sense that we attempted to remove from the references to permit licenses and these kinds of things. I will enter these since they never were, I understand, transmitted to you.

MR. WARREN: Since that date, as a matter of fact the day before yesterday, at its most recent vote, the Board adopted a resolution of which I don't have the exact wording, but the essence of which was that the Board of Environmental Protection believes that its responsibilities include the review of the project proposed by the Air Force as relate to all applicable State laws under its jurisdiction unless and until some federal statute to the contrary is provided for their consideration. Accordingly, I have written this morning to the Secretary of the Air Force informing him of that vote and in fact requesting the Air Force follow state law in normal procedures and file under these two statutes. Where we go from there, I leave in your hands.

MAJ SCHMIDT: The document you mentioned, Mr. Warren, if you will hand it to the clerk, we will have it attached to the record of the hearing.

Has either Mr. Davis or Mr. Mairs re-entered the hearing room?

PERSON IN AUDIENCE: No. I'll go out and get him.

MAJ SCHMIDT: All right, if you would, please.

At this time I would like to enter into the record a prepared statement presented by Mr. Kenneth Anderson, the Chief of Planning and Coordination of the Department of Inland Fisheries and Game of the State of Maine. I will hand this to the clerk for inclusion in the record at this time.

I have only the two speakers remaining, Mr. Davis and Mr. Mairs. I will wait a period of time to see if either of them will re-enter so we can proceed.

I have just been informed that Mr. Mairs has no further statement to make to this hearing at this time, that the matters raised by him during the question and answer period will be considered as his statement.

Has Mr. Davis returned?

In fairness to Mr. Davis, suppose we take a five-minute recess and we'll see if he gets back to speak. The hearing is recessed for five minutes.

The hearing recessed at 1610 hours, 13 September 1974.

The hearing reconvened at 1615 hours, 13 September 1974.

MAJ SCHMIDT: At this time I will reopen the hearing.

I have been informed that Mr. Davis is not available at the present time. In this event, I will leave open to Mr. Davis, a representative of the Department of Agriculture of the State of Maine, the option to submit to me his comments in writing for inclusion in the record of this hearing.

PERSON IN AUDIENCE. Do you want him to send it to you?

MAJ SCHMIDT: I guess, if he would.

Is there anything further to be raised at the hearing?

Since there appears to be nothing further, I would like to sincerely thank everyone attending this meeting. I am particular grateful for the questions that have been asked and statements that have been presented. As I stated in my opening remarks, 45 days from the date that the Air Force filed and distributed the Draft Environmental Impact Statement are allowed for written comments. These comments are due by September 23, 1974. We have placed on the blackboard immediately to my right rear, the address to which these comments should be directed.

I note that Mr. Davis has re-entered. Mr. Davis, would you like at this time to present your statement?

MR. DAVIS: Yes sir. I'm sorry that I was out, Major. I had to go out for a while. I thought I was playing it about right so I could be back here in time.

MAJ SCHMIDT: All right, proceed with your statement.

MR. DAVIS: I am Clayton Davis. I am Director of the Division of Inspections of the Maine Department of Agriculture, and I was asked to work on this for the Department of Agriculture by the Commissioner.

A preamble to the statement that I have prepared here. I have travelled a lot in Washington County, and I have a lot of people in that area who work down there. One of the men in my division of Deputy for Seals and Weights and Measures, Mr. Robinson, was born and raised in Washington County, and he has travelled these barrens since a little fellow he says - I prevailed upon him to do the leg work there, so to speak, and he has gone down there quite often and checked this out for me, and I have gone down once a week myself. So with this, I would go on to the statement that I have prepared here this morning after attending the hearing last night.

MR. DAVIS: In regard to the proposed prototype of the United States Air Force Over-The-Horizon Radar System, Continental United States, the Maine Department of Agriculture, as earlier conveyed in a letter to the State Planning Office, stated the Department could find no great adverse effect with the transmitter site in Somerset County. It further stated the Department felt a more thorough study should be conducted on the site selection for the receiver in Washington County since its proposed location was prime blueberry land.

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In the Somerset County area, the Department still feels the location of the transmitter site there will be a very positive situation for the local economy.

In the Washington County barrens, after seeing the proposed compromise and its move away from the one large piece of prime blueberry land, the Department now feels the Air Force has demonstrated in good faith a real effort in reaching a common ground for the people of the State of Maine, the residents of Washington County, and the citizens of the United States, in the interest of national security and future agricultural productivity.

The Department feels, further, we cannot align ourselves entirely in this matter with the interest of any one person or persons, but with the entire County, and taking into consideration that now approximately only 600 acres will be taken out of production in return for a payroll of roughly two million dollars injected into the area, we cannot at present find any fault with the new proposed site. It's signed by myself, Clayton Davis, as Director, Division of Inspections.

MAJ SCHMIDT: Thank you very much for your comments, Mr. Davis.

I would like also to remind those present that if there are any written comments that they wish to attach to this transcript of these proceedings, they should mail these comments to me, Major James L. Schmidt, at the 42nd Combat Support Group, Loring Air Force Base, Maine, 04750, within five days.

I would like also at this time to personally thank the State and local officials who have assisted myself and my staff in conducting these hearings. We found the reception in Moscow and the reception in Harrington to be quite cordial as we have found the same to be the case here in Augusta. It has made our job a lot easier, we have appreciated the cooperation, and I do wish to personally thank these individuals on the record.

If there is nothing further from the floor, this hearing will stand adjourned.

The hearing adjourned at 1622 hours, 13 September 1974.

Statement on Proposed Over-the-Horizon Radar System Before Informal Public Hearing

September 13, 1974

Augusta, Maine

by Philip M. Savage, State Planning Director

At this point in our comprehensive review of the Over-the-Horizon Radar System, it is my conclusion that to follow only the requirements of the National Environmental Policy Act of 1969 will leave the State both short of time and information to adequately analyze all the ramifications of this new and unique Air Force proposal.

In the last five weeks, we have received from State agencies and Regional Planning Commissions, and from private groups two consistent general comments: First, the information presented in the Draft Environmental Statement is incomplete and inadequate and, second, we need more time at both the State and regional level, to gather and analyze additional information. In summary, the present procedures of the Air Force under the National Environmental Policy Act leaves the State short of information and time.

In a letter to me from Billy E. Welch, Special Assistant for Environmental Quality, Office of the Assistant Secretary, Department of the Air Force - dated 30 July 1974, we are informed that all comments must be received by the Air Force by September 23, 1974. Furthermore, Mr. Welch points out that if no comments are received by this date the Air Force will assume we have no comments. This is a false assumption. Moreover, it does put the State of Maine in a very narrow time straightjacket and really seems to end any continuing review and dialog on this proposal. We will get comments to the Air Force at this time but they will, I am afraid, be incomplete.

Contrary to Mr. Welch's letter I strongly suggest that the Air Force should continue this dialogue with the State and its Regional Planning Commissions on this proposal and that we not end all discussion on September 23rd. Furthermore, we need a continuing dialogue to define in detail some of the major aspects of this system which, I am convinced, only time will reveal.

Let me add, however, that there is no doubt in my mind that the Air Force has acted responsibly and legally under the provisions of the National Environmental Policy Act of 1969. But, I submit, there is another very important law and directive that pertains to this issue and will provide the basis and authority for a continuing dialogue.

J-10 I refer to the Intergovernmental Cooperation Act of 1968 and the latest version of its implementing directive, Office of Management and Budget Circular A-95 of November 13, 1973. Part 11 of this Circular dealing with direct Federal development requires that all Federal agencies engaged in direct development of Federal projects must consult on a continuing basis with State and local governments that might be effected by these projects. Most appropriately, this includes all Federal projects such as Federal service work, military or scientific installations in public buildings. If projects are not in conformity with State, regional or local plans the Federal agency will be required to justify any deviation or departure from these plans. Section 11 of Part 11 dealing with coordination of direct Federal development projects lists these specific requirements.

Statement on Proposed Over-the-Horizon Radar System Before Informal Public Hearing Page

"a. Federal agencies having responsibility for the planning and construction of Federal buildings and installations or other Federal public works or development or for the acquisition, use, and disposal of Federal land and real property will establish procedures for:

(1) Consulting with Governors, State and areawide clearinghouses, and local elected officials at the earliest practicable stage in project or development planning on the relationship of any plan or project to the development plans and programs of the State, area, or locality in which the project is to be located.

(2) Assuring that any such Federal plan or project is consistent or compatible with State, areawide, and local development plans and programs identified in the course of such consultations. Exceptions will be made only where there is clear justification.

(3) Providing State, areawide, and local agencies which are authorized to develop and enforce environmental standards with adequate opportunity to review such Federal plans and projects pursuant to section 102 (2) (C) of the National Environmental Policy Act of 1969. Any comments of such agencies will accompany the environmental impact statement submitted by the Federal agency."

The limitations of time and information have not permitted the State of Maine to meet the very good objectives of the Intergovernmental Cooperation Act of 1968 and this directive of the Office of Management and Budget. Therefore, I strongly recommend to this hearing on the Air Force that the dialogue on this proposed Radar System continue. We hope that requirements of Circular A-95 permits this and that this initial review should be only the beginning, not the end of State participation in the consideration of this proposal.

DEPARTMENT OF THE AIR FORCE  
WASHINGTON 20330



OFFICE OF THE ASSISTANT SECRETARY

30 JUL 1974

Mr. Philip M. Savage  
State Planning Director  
189 State Street  
Augusta, Maine 04330

Dear Mr. Savage:

In accordance with the Guidelines of the Council on Environmental Quality, copies of the Revised Draft Environmental Statement "Over-the-Horizon (OTH) Radar System, Continental United States" are forwarded for your review and comments.

This statement describes a proposal to construct a prototype OTH radar system which would later be expanded to an operational system. The fully operational system would include an 1180 acre transmitter site located in Moscow/Caratunk, Somerset County, Maine and an 1800 acre receiver site in township 19MD, Washington County Maine. The principal impacts are related to clearing and grading on the transmitter site; restrictions on ground and airspace around the transmitter site for radiation hazard and electronic interference protection; and exclusion from wild blueberry fields at the receiver site.

Comments are requested by September 23, 1974 concerning matters which your agency has jurisdiction over, either by law or special expertise. Comments should be forwarded to SAF/ILE, Washington, D.C., 20330. If no comments are received September 23, 1974, we will assume that your agency has no comments on this statement.

Sincerely,

BILLY E. WELCH, Ph.D  
Special Assistant for  
Environmental Quality

1 Atch  
Draft Environmental Statement

EXECUTIVE OFFICE OF THE PRESIDENT  
OFFICE OF MANAGEMENT AND BUDGET  
WASHINGTON, D.C. 20503

NOV 20 1973

2000 PLANNING GROUP

November 13, 1973

CIRCULAR NO. A-95  
Revised

TO THE HEADS OF EXECUTIVE DEPARTMENTS AND ESTABLISHMENTS

SUBJECT: Evaluation, review, and coordination of Federal and federally assisted programs and projects

1. Purpose. This Circular furnishes guidance to Federal agencies for added cooperation with State and local governments in the evaluation, review, and coordination of Federal assistance programs and projects. The Circular promulgates regulations (Attachment A) which provide, in part, for:

a. Encouraging the establishment of a project notification and review system to facilitate coordinated planning on an intergovernmental basis for certain Federal assistance programs in furtherance of section 204 of the Demonstration Cities and Metropolitan Development Act of 1966 and Title IV of the Intergovernmental Cooperation Act of 1968 (Attachment B).

b. Coordination of direct Federal development programs and projects with State, areawide, and local planning and programs pursuant to Title IV of the Intergovernmental Cooperation Act of 1968.

c. Securing the comments and views of State and local agencies which are authorized to develop and enforce environmental standards on certain Federal or federally assisted projects affecting the environment pursuant to section 102(2)(C) of the National Environmental Policy Act of 1969 (Attachment (C)) and regulations of the Council on Environmental Quality.

d. Furthering the objectives of Title VI of the Civil Rights Act of 1964.

This Circular supersedes Circular No. A-95 (Revised), dated February 9, 1971 as amended by Transmittal Memoranda No. 1, dated July 26, 1971, and No. 2, dated March 8, 1972. It will become effective January 1, 1974.

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2. Basis. This Circular has been prepared pursuant to:

a. Section 401(a) of the Intergovernmental Cooperation Act of 1968 which provides, in part, that

"The President shall . . . establish rules and regulations governing the formulation, evaluation, and review of Federal programs and projects having a significant impact on area and community development..."

and the President's Memorandum of November 8, 1968, to the Director of the Bureau of the Budget ("Federal Register," Vol. 33, No. 221, November 13, 1968) which provides:

"By virtue of the authority vested in me by section 301 of title 3 of the United States Code and section 401(a) of the Intergovernmental Cooperation Act of 1968 (Public Law 90-577), I hereby delegate to you the authority vested in the President to establish the rules and regulations provided for in that section governing the formulation, evaluation, and review of Federal programs and projects having a significant impact on area and community development, including programs providing Federal assistance to the States and localities, to the end that they shall most effectively serve these basic objectives.

"In addition, I expect the Bureau of the Budget to generally coordinate the actions of the departments and agencies in exercising the new authorizations provided by the Intergovernmental Cooperation Act, with the objective of consistent and uniform action by the Federal Government."

b. Title IV, section 403, of the Intergovernmental Cooperation Act of 1968 which provides that:

"The Bureau of the Budget or such other agency as may be designated by the President, is hereby authorized to prescribe such rules and regulations as are deemed appropriate for the effective administration of this Title."

c. Section 204(c) of the Demonstration Cities and Metropolitan Development Act of 1966 which provides that:

"The Bureau of the Budget, or such other agency as may be designated by the President, shall prescribe such rules and regulations as are deemed appropriate for the effective administration of this section," and

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d. Reorganization Plan No. 2 of 1970 and Executive Order No. 11541 of July 1, 1970, which vest all functions of the Bureau of the Budget or the Director of the Bureau of the Budget in the Director of the Office of Management and Budget.

3. Coverage. The regulations promulgated by this Circular (Attachment A) will have applicability to:

a. Under Part I, all projects and activities (or significant changes thereto) for which Federal assistance is being sought under the programs listed in Attachment D or Appendix I of the Catalog of Federal Domestic Assistance whichever bears the later date. Limitations and provisions for exceptions are noted therein.

Projects and activities under other Federal programs in certain States, where State law (or administrative regulations developed pursuant thereto) so require, unless the head of the Federal program agency determines that such requirement would be inconsistent with the Federal law on which the program is based and the objectives of this Circular.

b. Under Part II, all direct Federal development activities, including the acquisition, use, and disposal of Federal real property.

c. Under Part III, all Federal programs as listed in Appendix II of the Catalog of Federal Domestic Assistance requiring, by statute or administrative regulation, a State plan as a condition of assistance and certain multi-source programs.

d. Under Part IV, all Federal programs providing assistance to State, local, and areawide projects and activities that are planned on a multijurisdictional basis.

e. Inquiries. Inquiries concerning this Circular may be addressed to the Office of Management and Budget, Washington, D.C. 20503, telephone (202) 395-3031.

DIRECTOR

Attachments

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REGULATIONS UNDER SECTION 204 OF THE DEMONSTRATION  
CITIES AND METROPOLITAN DEVELOPMENT ACT OF 1966,  
TITLE IV OF THE INTERGOVERNMENTAL COOPERATION ACT  
OF 1968, AND SECTION 102(2)(C) OF THE NATIONAL  
ENVIRONMENTAL POLICY ACT OF 1969

PART I: PROJECT NOTIFICATION AND REVIEW SYSTEM

1. Purpose. The purpose of this Part is to:

- a. Further the policies and directives of Title IV of the Intergovernmental Cooperation Act of 1968 by encouraging the establishment of a network of State and areawide planning and development clearinghouses which will aid in the coordination of Federal or federally assisted projects and programs with State, areawide, and local planning for orderly growth and development.
- b. Implement the requirements of section 204 of the Demonstration Cities and Metropolitan Development Act of 1966 for metropolitan areas within that network.
- c. Implement, in part, requirements of section 102(2)(C) of the National Environmental Policy Act of 1969, which require that State, areawide, and local agencies which are authorized to develop and enforce environmental standards be given an opportunity to comment on the environmental impact of Federal or federally assisted projects.
- d. Provide public agencies charged with enforcing or furthering the objectives of State and local civil rights laws with opportunity to participate in the review process established under this Part.
- e. Encourage, by means of early contact between applicants for Federal assistance and State and local governments and agencies, an expeditious process of intergovernmental coordination and review of proposed projects.

2. Notification.

- a. Any agency of State or local government or any organization or individual undertaking to apply for assistance to a project (or a renewal or major modification thereto) under a Federal

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program covered by this Part will be required to notify the State and areawide planning and development clearinghouse in the jurisdiction of which the project is to be located, of its intent to apply for assistance.

In the case of applications for an activity that is Statewide or broader in nature (such as for various types of research) and does not have specific applicability to nor affects areawide or local planning and programs, the notification need be sent only to the State clearinghouse. Involvement of areawide clearinghouses in the review in such cases will be at the initiative of the State clearinghouse.

Notification will include a summary description of the project for which assistance will be sought. The summary description will contain the following information, as appropriate and available:

- (1) Identity of the applicant agency, organization, or individual.
- (2) The geographic location of the project to be assisted. A map should be provided, if appropriate.
- (3) A brief description of the proposed project by type, purpose, general size or scale, estimated cost, beneficiaries, or other characteristics which will enable the clearinghouses to identify agencies of State or local government having plans, programs, or projects that might be affected by the proposed projects.
- (4) A statement as to whether or not the applicant has been advised by the funding agency from which assistance is being sought that he will be required to submit environmental impact information in connection with the proposed project.
- (5) The Federal program title and number and agency under which assistance will be sought as indicated in Attachment D or the latest Catalog of Federal Domestic Assistance. (The Catalog is issued annually in the spring and is updated periodically during the year.)
- (6) The estimated date the applicant expects to formally file an application.

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Many clearinghouses have developed notification forms and instructions. Applicants are urged to contact their clearinghouses for such information in order to expedite clearinghouse review.

b. In order to assure maximum time for effective coordination and so as not to delay the timely submission of the completed application to the funding agency, notifications containing the preliminary information indicated above should be sent at the earliest feasible time.

c. Applications from Federally recognized Indian tribes are not subject to the requirements of this Part. However, Indian tribes may voluntarily participate in the Project Notification and Review System and are encouraged to do so. Federal agencies will notify the appropriate State and areawide clearinghouses of any applications from Federally-recognized Indian tribes upon their receipt.

3. Clearinghouse functions. Clearinghouse functions include:

a. Evaluating the significance of proposed Federal or federally assisted projects to State, areawide, or local plans and programs, as appropriate.

b. Receiving and disseminating project notifications to appropriate State agencies in the case of the State clearinghouse and to appropriate local governments and agencies and regional organizations in the case of areawide clearinghouses; and providing liaison, as may be necessary, between such agencies or bodies and the applicant.

c. Assuring, pursuant to section 102(2)(c) of the National Environmental Policy Act of 1969, that appropriate State, areawide, or local agencies which are authorized to develop and enforce environmental standards are informed of and are given opportunity to review and comment on the environmental significance of proposed projects for which Federal assistance is sought.

d. Providing public agencies charged with enforcing or furthering the objectives of State and local civil rights laws with opportunity to review and comment on the civil rights aspects of the project for which assistance is sought.

e. Providing, pursuant to Part II of these regulations, liaison between Federal agencies contemplating direct Federal development projects and the State or areawide agencies or local

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governments having plans or programs that might be affected by the proposed project.

4. Consultation and review.

a. State and areawide clearinghouses may have a period of 30 days after receipt of a project notification in which to inform State agencies and local or regional governments or agencies (including agencies authorized to develop and enforce environmental standards and public agencies charged with enforcing or furthering the objectives of State and local civil rights laws) that may be affected by the proposed project and arrange, as may be necessary, to consult with the applicant thereon.

b. During this period and during the period in which the application is being completed, the clearinghouse may work with the applicant in the resolution of any problems raised by the proposed project.

c. Clearinghouses may have, if necessary, an additional 30 days to review the completed application and to transmit to the applicant any comments or recommendations the clearinghouse (or others) may have. Written comments submitted to the areawide clearinghouse by other jurisdictions, agencies, or parties will be included as attachments to the comments of areawide clearinghouses, when they are at variance with the clearinghouse comments; and others from whom comments were solicited should be listed.

d. In the case of a project for which Federal assistance is sought by a special purpose unit of government, clearinghouses will assure that any unit of general local government having jurisdiction over the area in which the project is to be located has opportunity to confer, consult, and comment upon the project and the application.

e. Applicants will include with the completed application as submitted to the Federal agency (or to the State agency in the case of projects for which the State, under certain programs, has final project approval):

(1) Any comments and recommendations made by or through clearinghouses, along with a statement that such comments have been considered prior to submission of the application; or

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(2) A statement that the procedures outlined in this section have been followed and that no comments or recommendations have been received.

f. Where areawide clearinghouse jurisdictions are contiguous, coordinative arrangements should be established between the clearinghouses in such areas to assure that projects in one area which may have an impact on the development of a contiguous area are jointly studied. Any comments and recommendations made by or through a clearinghouse in one area on a project in a contiguous area will accompany the application for assistance to that project.

5. Subject matter of comments and recommendations. Comments and recommendations made by or through clearinghouses with respect to any project are for the purpose of assuring maximum consistency of such project with State, areawide, and local comprehensive plans. They are also intended to assist the Federal agency (or State agency, in the case of projects for which the State under certain Federal grants has final project approval) administering such a program in determining whether the project is in accord with applicable Federal law. Comments or recommendations, as may be appropriate, may include, but need not be limited to, information about:

a. The extent to which the project is consistent with or contributes to the fulfillment of comprehensive planning for the State, area, or locality.

b. The extent to which the proposed project:

(1) Duplicates, runs counter to, or needs to be coordinated with other projects or activities being carried out in or affecting the area; or

(2) Might be revised to increase its effectiveness or efficiency.

c. The extent to which the project contributes to the achievement of State, areawide, and local objectives and priorities relating to natural and human resources and economic and community development as specified in section 401 of the Intergovernmental Cooperation Act of 1968, including;

(1) Appropriate land uses for housing, commercial, industrial, governmental, institutional, and other purposes;

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(2) Wise development and conservation of natural resources, including land, water, mineral, wildlife, and others;

(3) Balanced transportation systems, including highway, air, water, pedestrian, mass transit, and other modes for the movement of people and goods;

(4) Adequate outdoor recreation and open space;

(5) Protection of areas of unique natural beauty, historical and scientific interest;

(6) Properly planned community facilities including utilities for the supply of power, water and communications, for the safe disposal of wastes, and for other purposes; and

(7) Concern for high standards of design.

d. As provided under section 102(2)(C) of the National Environmental Policy Act of 1969, the extent to which the project significantly affects the environment including consideration of:

(1) The environmental impact of the proposed project;

(2) Any adverse environmental effects which cannot be avoided should the proposed project be implemented;

(3) Alternatives to the proposed project;

(4) The relationship between local short term uses of man's environment and the maintenance and enhancement of long term productivity; and

(5) Any irreversible and irretrievable commitments of resources which would be involved in the proposed project or action, should it be implemented.

e. The extent to which the project contributes to more balanced patterns of settlement and delivery of services to all sectors of the area population, including minority groups.

f. In the case of a project for which assistance is being sought by a special purpose unit of government, whether the unit or general local government having jurisdiction over the area in which the project is to be located has applied, or plans to apply for assistance for the same or a similar type project. This information is necessary to enable the Federal (or State) agency

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to make the judgments required under section 402 of the Intergovernmental Cooperation Act of 1968.

6. Federal agency procedures. Federal agencies having programs covered under this Part will develop appropriate procedures for:

a. Informing potential applicants for assistance under such programs of the requirements of this Part (1) in program information materials, (2) in response to inquiries respecting application procedures, (3) in pre-application conferences, or (4) by other means which will assure earliest contact between applicant and clearinghouses.

b. Assuring that all applications for assistance under programs covered by this part have been submitted to appropriate clearinghouses for review prior to their submission to the funding agency.

c. Notifying clearinghouses within seven days of any action (approvals, disapprovals, return for amendment, etc.) taken on applications that have been reviewed by such clearinghouses. Where a State or areawide clearinghouse has assigned an identification number to an application, the Federal agency will refer to such identification numbers in notifying clearinghouses of actions taken on the application.

d. Where a clearinghouse has recommended against approval of an application or approval only with specific and major substantive changes, and the funding agency approves the application substantially as submitted, the funding agency will provide the clearinghouse, in writing, with an explanation therefor.

e. Assuring, in the case of an application submitted by a special purpose unit of government, where accompanying comments indicate that the unit of general local government having jurisdiction over the area in which the project is to be located has submitted or plans to submit an application for assistance for the same or a similar type project, that appropriate considerations and preferences as specified in section 402 of the Intergovernmental Cooperation Act of 1968, are accorded the unit of general local government. Where such preference cannot be so accorded, the agency shall supply, in writing, to the unit of general local government and the Office of Management and Budget its reasons therefor.

7. OMB Circular No. A-102. OMB Circular No. A-102 (Attachment M) provides standard application forms for all Federal grant pro-

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grams to State and local governments except those Federal formula grant programs which do not require grantees to apply for Federal funds on a project basis. The Circular promulgates a Preapplication Form for all construction, land acquisition, and land development projects or programs for which the need for Federal funding exceeds \$100,000.

a. Any applicant using the A-102 Preapplication Form for a project under a program covered by this Part will transmit copies of the preapplication to the appropriate State and areawide clearinghouses at the time it is submitted to the Federal agency from which assistance is being sought.

b. Circular No. A-102 requires the Federal agency to respond to a preapplication within 45 days of its receipt. Where a clearinghouse wishes to make any comments on the project, it may submit such comments directly to the Federal agency and the applicant. The Federal agency will consider any such comments received prior to completion of its own review of the preapplication and notify the clearinghouse of its action on the preapplication. Clearinghouses should also notify the Federal agency if they have no comment.

c. Any comment by a clearinghouse endorsing or withholding endorsement of the project during the preapplication stage will not be considered a substitute for review under this Part unless the clearinghouse so indicates. All consultations and conferences between applicants and clearinghouses subsequent to submission of the preapplication or review of completed final applications will be carried out as described under paragraph 4 of this Part.

Housing programs. Because of the unique nature of housing programs of the Department of Housing and Urban Development, the Veterans Administration, and the Farmers Home Administration of the Department of Agriculture a variation of the review procedure is necessary. For such programs, the following procedure for will be followed:

a. The appropriate HUD, VA, or USDA/FHA office will transmit to the appropriate State and areawide clearinghouses a copy of the initial application for project approval.

b. Clearinghouses will have 30 days from receipt to review applications and to forward to the HUD, VA, or USDA/FHA any comments which they may have, including observations concerning the consistency of the proposed project with State and

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areawide development plans, the extent to which the proposed project will provide housing opportunities for all segments of the community, and identification of major environmental concerns. Processing of applications in the HUD, VA, or USDA/FHA office will proceed concurrently with the clearinghouse review.

c. This procedure will include only applications involving new construction and will apply to applications for loans, loan guarantees, mortgage insurance, or other housing assistance:

(1) In cities over 50,000 population and contiguous urbanized areas having a population density of over 100 persons per square mile, to:

(a) Subdivisions having 25 or more lots.  
(b) Multifamily projects having 50 or more dwelling units.

(c) Mobile home courts with 50 or more spaces.

(d) College housing provided under the debt service or direct loan programs for 200 or more students.

(2) In all other areas, to:

(a) Subdivisions having 10 or more lots.  
(b) Multifamily projects having 25 or more dwelling units.  
(c) Mobile home courts with 25 or more spaces.  
(d) College housing provided under the debt service or direct loan programs for 100 or more students.

9. Exceptions.

a. Heads of Federal departments and agencies may, with the concurrence of the Office of Management and Budget, exclude certain categories of projects or activities under listed programs from the requirements of Attachment A, Part I. OMB concurrence will be based on the following criteria:

(1) Lack of geographic identifiability with respect to location or impact (e.g., certain types of technical studies);

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- (2) Small scale or size;
- (3) Essentially local impact (within the applicant jurisdiction); and
- (4) Other characteristics that make review impractical.

OMB will notify clearinghouses of such exclusions.

b. In the case of any exception, applicants are, nevertheless, required to send copies of the application to the clearinghouses at the time it is submitted to the Federal agency. The Federal agency will consider any clearinghouse comments at the time the application has been processed. Comments should be sent directly to the Federal agency.

c. Exceptions will be reviewed periodically by the Office of Management and Budget.

c. Individual clearinghouses may except certain types of projects from review for reasons indicated above or for other reasons appropriate to the State or area.

10. Reports and directories.

a. The Director of the Office of Management and Budget may require reports, from time to time, on the implementation of this Part.

b. The Office of Management and Budget will maintain and distribute to appropriate Federal agencies a directory of State and areawide clearinghouses.

c. The Office of Management and Budget will notify clearinghouses and Federal agencies of any excepted categories of projects under covered programs.

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## PART II: DIRECT FEDERAL DEVELOPMENT

1. Purpose. The purpose of this Part is to:

a. Provide State and local government with information on projected Federal development so as to facilitate coordination with State, areawide, and local plans and programs.

b. Provide Federal agencies with information on the relationship of proposed direct Federal development projects and activities to State, areawide, and local plans and programs; and to assure maximum feasible consistency of Federal developments with State, areawide, and local plans and programs.

c. Provide Federal agencies with information on the possible impact on the environment of proposed Federal development.

2. Coordination of direct Federal development projects with State, areawide, and local development.

a. Federal agencies having responsibility for the planning and construction of Federal buildings and installations or other Federal public works or development or for the acquisition, use, and disposal of Federal land and real property will establish procedures for:

(1) Consulting with Governors, State and areawide clearinghouses, and local elected officials at the earliest practicable stage in project or development planning on the relationship of any plan or project to the development plans and programs of the State, area, or locality in which the project is to be located.

(2) Assuring that any such Federal plan or project is consistent or compatible with State, areawide, and local development plans and programs identified in the course of such consultations. Exceptions will be made only where there is clear justification.

(3) Providing State, areawide, and local agencies which are authorized to develop and enforce environmental standards with adequate opportunity to review such Federal plans and projects pursuant to section 102(2)(C) of the National Environmental Policy Act of 1969. Any comments of such agencies will accompany the environmental impact statement submitted by the Federal agency.

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(4) Through the appropriate clearinghouses providing State and areawide agencies which are authorized to perform comprehensive health planning (under Sections 314a and 314b of the Public Health Service Act) with adequate opportunity to review Federal projects for construction and/or equipment involving capital expenditures exceeding \$200,000 for modernization, conversion, and expansion of Federal inpatient care facilities, which alter the bed capacity or modify the primary function of the facility, as well as plans for provision of major new medical care services. (Excluded are projects to renovate or install mechanical systems, air conditioning systems, or other similar internal system modifications.) The comments of such will accompany the plan and budget requests submitted by the Federal agency to the Office of Management and Budget or a certification that the agencies had been provided a reasonable time to comment and had failed to do so.

3. Use of clearinghouses. The State and areawide planning and development clearinghouses established pursuant to Part I will be utilized to the greatest extent practicable to effectuate the requirements of this Part. Agencies are urged to establish early contact with clearinghouses to work out arrangements for carrying out the consultation and review required under this Part, including identification of types of projects considered appropriate for consultation and review.

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## PART III: STATE PLANS AND MULTISOURCE PROGRAMS

1. Purpose. The purpose of this Part is to provide Federal agencies with information about the relationship to State or areawide comprehensive planning of State plans or multisource programs which are required or form the basis for funding under various Federal programs.

2. State plans. To the extent not presently required by statute or administrative regulation, Federal agencies administering programs requiring by statute or regulation a State plan as a condition of assistance under such programs will require that the Governor, or his delegated agency, be given the opportunity to comment on the relationship of such State plan to comprehensive and other State plans and programs and to those of affected area-wide or local jurisdictions. To the extent practical, the Governor is encouraged to involve areawide clearinghouses in the review of State plans.

a. The Governor will be afforded a period of 45 days in which to make such comments, and any such comments will be transmitted with the plan.

b. A "State plan" under this Part is defined to include any required supporting planning reports or documentation that indicate the programs, projects, and activities for which Federal funds will be utilized. Such reports or documentation will also be submitted for review at the request of the Governor or the agency he has designated to perform review under this Part.

c. Programs requiring State plans are listed in Appendix II of the Catalog of Federal Domestic Assistance.

3. Multisource programs. A "multisource program" under this Part is a program or programs of related activities for which assistance is sought, on a combined or coordinated basis, involving two or more Federal programs or funding authorities.

a. Federal agencies administering or participating in the administration of multisource programs will require that appropriate State and areawide clearinghouses be given the opportunity to comment on the relationship of any proposed multisource program to State or areawide comprehensive plans and programs. Clearinghouses will be afforded a period of 45 days in which to make such comments, and any comments will be transmitted with the application for assistance under such multisource program.

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b. Multisource programs include the following programs, plus such other programs as the Office of Management and Budget shall specify from time to time:

- (1) Integrated Grant Administration (IGA)
- (2) Unified Work Program (DOT 1130.2)
- (3) Environmental Protection - Consolidated Program Grants (EPA)
- (4) Areawide Manpower Plans (DOL)

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PART IV: COORDINATION OF PLANNING  
IN MULTIJURISDICTIONAL AREAS

1. Policies and objectives. The purposes of this Part are:
  - a. To encourage and facilitate State and local initiative and responsibility in developing organizational and procedural arrangements for coordinating comprehensive and functional planning activities.
  - b. To eliminate overlap, duplication, and competition in State and local planning activities assisted or required under Federal programs and to encourage the most effective use of State and local resources available for development planning.
  - c. To minimize inconsistency among Federal administrative and approval requirements placed on State and areawide development planning activities.
  - d. To encourage the States to exercise leadership in delineating and establishing a system of planning and development districts or regions in each State, which can provide a consistent geographic base for the coordination of Federal, State, and local development programs.
  - e. To encourage Federal agencies administering programs assisting or requiring areawide planning to utilize agencies that have been designated to perform areawide comprehensive planning in planning and development districts or regions established pursuant to subparagraph d above and that have been designated areawide clearinghouses pursuant to Part I of Attachment A of this Circular to carry out or coordinate planning under such programs. In the case of interstate metropolitan areas, agencies designated as metropolitan areawide clearinghouses should be utilized to the extent possible to carry out or coordinate Federally assisted or required areawide planning.

2. Common or consistent planning and development districts or regions.

- a. Prior to the designation or redesignation (or approval thereof) of any planning and development district or region under any Federal program, Federal agency procedures will provide a period of 30 days for the Governor(s) of the State(s) in which the district or region will be located to review the boundaries thereof and comment upon its relationship to planning and devel-

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opment districts or regions established by the State. Where the State has established such planning and development districts, the boundaries of areas designated under Federal programs will conform to them unless there is clear justification for not doing so.

b. Where the State has not established planning and development districts or regions which provide a basis for evaluation of the boundaries of the area proposed for designation, major units of general local government and the appropriate Federal Regional Council in such areas will also be consulted prior to designation of the area to assure consistency with districts under inter-local agreement and under related Federal programs.

c. The Office of Management and Budget will be notified through the appropriate Federal Regional Council by Federal agencies of any proposed designation and will be informed of such designation when it is made.

d. Common and consistent planning bases and coordination of related activities in multijurisdictional areas. Each agency will develop procedures and requirements for applications for areawide planning and development assistance under appropriate programs to assure the fullest consistency and coordination with related planning and development being carried on by the areawide clearinghouse designated under Part I of this Circular in the multi-jurisdictional area.

Such procedures shall include provision for submission to the funding agency by any applicant for areawide planning assistance, if the applicant is other than an areawide comprehensive planning agency referred to in paragraph 1e of this Part, of a memorandum of agreement between the applicant and such areawide comprehensive planning agency covering the means by which their planning activities will be coordinated. The agreement will cover but need not be limited to the following matters:

a. Identification of relationships between the planning proposed by the applicant and that of the areawide agency and of similar or related activities that will require coordination;

b. The organizational and procedural arrangements for coordinating such activities, such as: overlapping board membership, procedures for joint reviews of projected activities and policy information exchange, etc;

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c. Cooperative arrangements for sharing planning resources (funds, personnel, facilities, and services);

d. Agreed upon base data, statistics, and projections (social, economic, demographic) on the basis of which planning in the area will proceed.

Where an applicant has been unable to effectuate such an agreement, he will submit a statement indicating the efforts he has made to secure agreement and the issues that have prevented it. In such case, the funding agency, in consultation with the Federal Regional Council and the State clearinghouse designated under Part I, will undertake, within a 30 day period after receipt of the application, resolution of the issues before approving the application, if it is otherwise in good order.

4. Joint funding. Where it will enhance the quality, comprehensive scope, and coordination of planning in multijurisdictional areas, Federal agencies will, to the extent practicable, provide for joint funding of planning activities being carried on therein.

5. Coordination of agency procedures and requirements. With respect to the steps called for in paragraphs 2 and 3 of this Part, departments and agencies will develop for relevant programs appropriate draft procedures and requirements. Copies of such drafts will be furnished to the Director of the Office of Management and Budget and to the heads of departments and agencies administering related programs. The Office, in consultation with the agencies, will review the draft procedures to assure the maximum obtainable consistency among them.

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## PART V: DEFINITIONS

Terms used in this circular will have the following meanings:

1. Federal agency -- any department, agency, or instrumentality in the executive branch of the Government and any wholly owned Government corporation.
2. State - any of the several States of the United States, the District of Columbia, Puerto Rico, any territory or possession of the United States, or any agency or instrumentality of a State, but does not include the governments of the political subdivisions of the State.
3. Unit of general local government -- any city, county, town, parish, village, or other general purpose political subdivision of a State.
4. Special purpose unit or local government -- any special district, public purpose corporation, or other strictly limited purpose political subdivision of a State, but shall not include a school district.
5. Federal assistance, Federal financial assistance, Federal assistance programs, or federally assisted program -- programs that provide assistance through grant or contractual arrangements. They include technical assistance programs, or programs providing assistance in the form of loans, loan guarantees, or insurance. The term does not include any annual payment by the United States to the District of Columbia authorized by article VI of the District of Columbia Revenue Act of 1947 (D.C. Code sec. 47-2501a and 47-2501b).
6. Funding agency. The Federal agency or, in the case of certain formula grant programs, the State agency which is responsible for final approval of applications for assistance.
7. Comprehensive planning, to the extent directly related to the needs or needs of a unit of general local government, including the following:

a. Preparation, as a guide for governmental policies and action, of general plans with respect to:

- (1) Pattern and intensity of land use,

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(2) Provision of public facilities (including transportation facilities) and other government services.

(3) Effect development and utilization of human and natural resources.

b. Preparation of long range physical and fiscal plans for such action.

c. Programming of capital improvements and other major expenditures, based on a determination of related urgency, together with definitive financing plans for such expenditures in the earlier years of the program.

d. Coordination of all related plans and activities of the State and local governments and agencies concerned.

e. Preparation of regulatory and administrative measures in support of the foregoing.

8. Metropolitan area -- a standard metropolitan statistical area as established by the Office of Management and Budget, subject, however, to such modifications and extensions as the Office of Management and Budget may determine to be appropriate for the purposes of section 204 of the Demonstration Cities and Metropolitan Development Act of 1966, and these Regulations.

9. Areawide -- Comprising, in metropolitan areas, the whole of contiguous urban and urbanizing areas; and in nonmetropolitan areas contiguous counties or other multijurisdictional areas having common or related social, economic, or physical characteristics indicating a community of developmental interests; or, in either, the area included in a substate district designated pursuant to paragraph 1d, Part IV, Attachment A of this Circular.

10. Planning and development clearinghouse or clearinghouse includes:

a. "State clearinghouse" -- an agency of the State Government designated by the Governor or by State law to carry out the requirements of Part I of Attachment A of this Circular.

b. "Areawide clearinghouse" --

(1) In nonmetropolitan areas a comprehensive planning agency designated by the Governor (or Governors in the case of

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regions extending into more than one State) or by State law to carry out requirements of this Circular; or

(2) In metropolitan areas an areawide agency that has been recognized by the Office of Management and Budget as an appropriate agency to perform review functions under section 204 of the Demonstration Cities and Metropolitan Development Act of 1966, Title IV of the Intergovernmental Cooperation Act of 1968, and this Circular.

11. Multijurisdictional area -- any geographical area comprising, encompassing, or extending into more than one unit of local government.

12. Planning and development district or region -- a multijurisdictional area that has been formally designated or recognized as an appropriate area for planning under State law or Federal program requirements.

13. Direct Federal development -- planning and construction of public works, physical facilities, and installations or land and real property development (including the acquisition, use, and disposal of real property) undertaken by or for the use of the Federal Government or any of its agencies.

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## Appendix I: Programs Requiring Clearinghouse Review

Applicants for assistance under the following programs are required to notify the appropriate planning and development clearinghouse(s) of intent to apply in accordance with OMB Circular No. A-95 (revised), Part I.

For detailed information on requirements which must be met before applying, refer to the Preapplication Coordination section of each program description. This list of Circular No. A-95, Part I Programs takes precedence over all previously published lists, provided that any program previously covered but not listed herein because it is not presently funded or operative which becomes funded or operative is again covered by Part I.

Subsequently as between Attachment D of the Circular and Appendix I of the Catalog whichever one bears the later date should be consulted.

### DEPARTMENT OF AGRICULTURE

- 10.409 Irrigation, Drainage, and Other Soil and Water Conservation Loans
- 10.411 Rural Housing Site Loans
- 10.414 Resource Conservation and Development Loans
- 10.415 Rural Rental Housing Loans
- 10.418 Water and Waste Disposal Systems for Rural Communities
- 10.419 Watershed Protection and Flood Prevention Loans
- 10.422 Business and Industrial Development Loans
- 10.423 Community Facilities Loans
- 10.424 Industrial Development Grants
- 10.401 Resource Conservation and Development
- 10.904 Watershed Protection and Flood Prevention (Exception: Projects under \$7,500, erosion and sediment control, land stabilization, and rehabilitation and consolidation of existing systems)

### DEPARTMENT OF COMMERCE

- 11.300 Economic Development-Grants and Loans for Public Works and Development Facilities
- 11.302 Economic Development-Planning Assistance
- 11.303 Economic Development-Technical Assistance
- 11.304 Economic Development-Public Works Impact Projects (procedural exception)
- 11.417 Sea Grant Support
- 11.418 Coastal Zone Management Program Development

### DEPARTMENT OF DEFENSE

- 12.101 Beach Erosion Control Projects
- 12.106 Flood Control Projects
- 12.107 Navigation Projects
- 12.108 Snagging and Clearing for Flood Control
- 12.109 Snagging and Clearing for Navigation

### DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

- 13.206 Comprehensive Health Planning-Areawide Grants
- 13.210 Comprehensive Public Health Services-Formula Grants
- 13.220 Health Facilities Construction-Grants
- 13.224 Health Services Development-Project Grants
- 13.226 Health Services Research and Development-Grants and Contracts
- 13.235 Drug Abuse Community Service Programs
- 13.240 Mental Health-Community Mental Health Centers
- 13.246 Migrant Health Grants
- 13.251 Alcohol Community Service Programs
- 13.252 Alcohol Demonstration Programs
- 13.253 Health Facilities Construction-Loans and Loan Guarantees
- 13.254 Drug Abuse Demonstration Programs
- 13.256 Health Maintenance Organization Service
- 13.259 Mental Health-Children's Services

- 13.267 Urban Rat Control
- 13.275 Drug Abuse Education Programs
- 13.284 Emergency Medical Services
- 13.369 Nursing School Construction-Loan Guarantees and Interest Subsidies
- 13.378 Health Professions Teaching Facilities-Loan Guarantees and Interest Subsidies
- 13.392 Cancer-Construction
- 13.400 Adult Education-Grants to States
- 13.401 Adult Education-Special Projects
- 13.408 Construction of Public Libraries
- 13.477 School Assistance in Federally Affected Areas-Construction
- 13.493 Vocational Education-Basic Grants to States
- 13.494 Vocational Education-Consumer and Homemaking
- 13.495 Vocational Education-Cooperative Education
- 13.499 Vocational Education-Special Needs
- 13.501 Vocational Education-Work Study
- 13.502 Vocational Education-Innovation
- 13.516 Preschool, Elementary, and Secondary Education-Special Programs and Projects
- 13.519 Supplementary Educational Centers and Services, Guidance, Counseling, and Testing
- 13.600 Child Development-Head Start
- 13.609 Special Programs for the Aging
- 13.610 Youth-Development and Delinquency Prevention
- 13.612 Native American Programs
- 13.746 Rehabilitation Services and Facilities-Basic Support
- 13.753 Developmental Disabilities-Basic Support (construction only)
- 13.763 Rehabilitation Services and Facilities-Special Projects

### DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT

- 14.103\* Interest Reduction Payments-Rental and Cooperative Housing for Lower Income Families
- 14.105\* Interest Subsidy-Homes for Lower Income Families
- 14.112\* Mortgage Insurance-Construction or Rehabilitation of Condominium Projects
- 14.115\* Mortgage Insurance-Development of Sales-Type Cooperative Projects
- 14.116 Mortgage Insurance-Group Practice Facilities
- 14.117\* Mortgage Insurance-Homes
- 14.118\* Mortgage Insurance-Homes for Certified Veterans
- 14.119\* Mortgage Insurance-Homes for Disaster Victims
- 14.120\* Mortgage Insurance-Homes for Low and Moderate Income Families
- 14.121\* Mortgage Insurance-Homes in Outlying Areas
- 14.122\* Mortgage Insurance-Homes in Urban Renewal Areas
- 14.124\* Mortgage Insurance-Investor Sponsored Cooperative Housing
- 14.125\* Mortgage Insurance-Land Development and New Communities
- 14.126\* Mortgage Insurance-Management-Type Cooperative Projects
- 14.127\* Mortgage Insurance-Mobile Home Parks
- 14.128 Mortgage Insurance-Hospitals
- 14.129 Mortgage Insurance-Nursing Homes and Related Care Facilities
- 14.134\* Mortgage Insurance-Rental Housing
- 14.135\* Mortgage Insurance-Rental Housing for Moderate Income Families
- 14.137\* Mortgage Insurance-Rental Housing for Low and Moderate Income Families, Market Interest Rate
- 14.138\* Mortgage Insurance-Rental Housing for the Elderly
- 14.139\* Mortgage Insurance-Rental Housing in Urban Renewal Areas
- 14.141 Non-Profit Housing Sponsor Loans-Planning Projects for Low and Moderate Income Families
- 14.146\* Public Housing-Acquisition (Turnkey and Conventional Production Methods) (new construction only)

14 149\* Rent Supplements-Rental Housing for Lower Income Families  
 14 203 Comprehensive Planning Assistance  
 14 207 New Communities-Loan Guarantees  
 \* Subject to the limitations and procedures set forth in Paragraph 7, Part I, of the Circular

#### DEPARTMENT OF THE INTERIOR

15 400 Outdoor Recreation-Acquisition, Development and Planning  
 15 501 Irrigation Distribution System Loans  
 15 503 Small Reclamation Projects  
 15 904 Historic Preservation

#### DEPARTMENT OF JUSTICE

16 500 Law Enforcement Assistance-Comprehensive Planning Grants  
 16 501 Law Enforcement Assistance-Discretionary Grants  
 16 502 Law Enforcement Assistance-Improving and Strengthening Law Enforcement and Criminal Justice

#### DEPARTMENT OF LABOR

17 212 Job Opportunities in the Business Sector (excluding national contracts)  
 17 226 Work Incentives Program and Incentives  
 17 230 Migrant Workers  
 17 232 Comprehensive Employment and Training Programs

#### DEPARTMENT OF TRANSPORTATION

20 102 Airport Development Aid Program  
 20 103 Airport Planning Grant Program  
 20 205 Highway Research, Planning, and Construction  
 20 214 Highway Beautification-Control of Outdoor Advertising, Control of Junkyards, Landscaping and Scenic Enhancement  
 20 500 Urban Mass Transportation Capital Improvement Grants (planning and construction only)  
 20 501 Urban Mass Transportation Capital Improvement Loans (planning and construction only)  
 20 505 Urban Mass Transportation Technical Studies Grants (planning and construction only)

#### APPALACHIAN REGIONAL COMMISSION

23 002 Appalachian Supplements to Federal Grant-in-Aid (basic grants only)  
 23 003 Appalachian Development Highway System  
 23 004 Appalachian Health Demonstrations (planning and construction only)  
 23 005 Appalachian Housing Fund  
 23 008 Appalachian Local Access Roads  
 23 010 Appalachian Mine Area Restoration  
 23 011 Appalachian State Research, Technical Assistance, and Demonstration Projects  
 23 012 Appalachian Vocational Education Facilities and Operations  
 23 013 Appalachian Child Development  
 23 014 Appalachian Housing Site Development  
 23 016 Appalachian Vocational and Technical Education Demonstration Grants

#### COASTAL PLAINS REGIONAL COMMISSION

24 001 Coastal Plains Regional Economic Development

#### FOUR CORNERS REGIONAL COMMISSION

34 001 Four Corners Regional Economic Development

#### NATIONAL SCIENCE FOUNDATION

47 036 Intergovernmental Science and Research Utilization

#### NEW ENGLAND REGIONAL COMMISSION

48.001 New England Regional Economic Development

#### OZARKS REGIONAL COMMISSION

52.001 Ozarks Regional Economic Development

#### UPPER GREAT LAKES REGIONAL COMMISSION

63.001 Upper Great Lakes Regional Economic Development

#### VETERANS ADMINISTRATION

64.004 Exchange of Medical Information  
 64.005 Grants to States for Construction of State Nursing Home Care Facilities  
 64.017 Grants to States for Remodeling of State Home Hospital/Domiciliary Facilities  
 64.114 Veterans Housing-Guaranteed and Insured

#### WATER RESOURCES COUNCIL

65 001 Water Resources Planning

#### ENVIRONMENTAL PROTECTION AGENCY

66.005 Air Pollution Survey and Demonstration Grants  
 66.418 Construction Grants for Wastewater Treatment Works  
 66.426 Water Pollution Control-Areawide Waste Treatment Management Planning Grants  
 66.505 Water Pollution Control-Research, Development, and Demonstration

Note: The following programs either have not been assigned a Catalog number or have an uncertain organizational or funding status.

1. Community Action (excluding administration, research, training technical assistance, and evaluation). Formerly 49.002.
2. Comprehensive Health Services. Formerly 49.003, now in HEW.
3. Drug Rehabilitation. Formerly 49.004, now in HEW.
4. Family Planning. Formerly 49.006, now in HEW.
5. Public Law 92-419. Rural Development Act of 1972. Water Storage Facilities (Section 301).
6. Public Law 92-424. Economic Opportunity.
7. Public Law 92-424. Economic Opportunity Amendments of 1972. Assistance under programs for New Special Emphasis (Section 11), Design and Planning Assistance (Section 226), Youth Recreation and Sports (Section 227), Consumer Action and Cooperation (Section 228), and for Community Economic Development (Title II).
8. Public Law 92-318. Education Amendments of 1972. Grants for Programs and Projects Relating to National and Regional Problems (Section 102); for Construction of Academic Facilities (Section 161); and for Metropolitan Area Projects (Section 709).
9. Public Law 92-541. Veterans' Administration Medical School Assistance and Health Manpower Training Act of 1972.
10. Public Law 92-500. Federal Water Pollution Control Act Amendments of 1972. Comprehensive Programs for Water Pollution Control (Section 102). Grants for areawide waste treatment management, and construction (Title II); Water Quality Implementation Plans (Section 303).

OMB CIRCULAR NO. A-95

WHAT IT IS--HOW IT WORKS

Office of Management and Budget Circular No. A-95 is a procedure for coordinating Federal and federally assisted programs and projects with each other and with State, regional, and local plans and programs.

The Circular has four major parts:

- Part I, "The Project Notification and Review System," deals with State and local review of applications for Federal assistance.
- Part II, "Direct Federal Development," provides for consultation by Federal agencies with State and local government on direct Federal development.
- Part III, "State Plans and Multisource Programs," requires gubernatorial review of federally required State plans and clearinghouse review of plans for activities being funded from several program sources.
- Part IV, "Coordination of Planning in Multijurisdictional Areas," promotes coordination of federally assisted planning at the substate regional level.

1. Statutory background.

Office of Management and Budget Circular No. A-95 was first issued July 24, 1969, in partial implementation of the Intergovernmental Cooperation Act of 1968. A major revision was issued on February 9, 1971. Certain other substantive amendments were promulgated as a separate issuance March 8, 1972. The current revision of November 13, 1973, incorporates past revisions and amendments, adds certain clarifications and refinements, and expands the coverage of the "Project Notification and Review System" (Part I, Attachment A) to cover a substantial number of human resources programs.

The "Project Notification and Review Procedure" is based in large measure on an earlier law, Section 204 of the Demonstration Cities and the Metropolitan Development Act of 1966. Section 204 requires that application for Federal assistance to a wide variety of public facilities type

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projects (highways, hospitals, etc.) in metropolitan areas must be accompanied by the comments of an areawide comprehensive planning agency as to the relationship of the proposed project to the planned development of the area.

However, Title IV of the Intergovernmental Cooperation Act is the broad policy base on which A-95 rests. It is fundamentally a statement of national policy which asserts the cooperative, intergovernmental nature of Federalism and directs the close coordination of Federal and federally assisted plans and programs for the development of the Nation's physical, natural, economic, and human resources with State, areawide, and local plans and programs.

Title IV directs the President to "establish rules and regulations governing the formulation, evaluation, and review of Federal programs and projects having a significant impact on area and community development." The basic objectives of this mandate center about the importance of sound and orderly development of urban and rural areas for the economic and social development of the Nation. Section 401(b) of the Act requires that "all viewpoints--national, State, regional, and local--shall, to the extent possible, be taken into account in planning Federal or federally assisted development programs and projects." Section 401(c) states, moreover, that "to the maximum extent possible, consistent with national objectives, all Federal aid for development purposes shall be consistent with and further the objectives of State, regional and local planning."

The following paragraphs are aimed at clarifying the regulations promulgated by Circular No. A-95.

## 2. The approach.

The "philosophy" that lies behind the current formulation of the requirements called for in the statutes on which A-95 is based centers on the following views:

a. The statutes themselves represent a response to the need for coordination of planning and development activities within and among Federal, State, and local levels of government:

- At the Federal level, there are a myriad of programs of assistance to State and local

government that were developed piecemeal and are not coherent as to policy and administration. They are often duplicative and sometimes even in conflict with each other;

- At the State level, Governors' abilities to manage are not only often constitutionally circumscribed but administratively frustrated, with respect to Federal programs, by functional bureaucracies;
- Local government is heavily fragmented both within and among jurisdictions; and
- Many federally assisted programs and projects cannot be planned by (or within) individual jurisdictions or without reference to programs and projects within other functional or jurisdictional areas.

A-95 is the instrument for facilitating the needed coordination without encroaching on the constitutional domain of the States or the statutory responsibilities of Federal program administrators.

b. A-95 is based on the following premises:

- Fundamental to coordination is communication; therefore,
- If people who should be talking to each other are put in a position of having to talk to each other, then
- They may come to identify and understand their communities of interest and areas of conflict, and, if they do, then
- They may cooperate in pursuit of their common interests and try to negotiate their differences;
- To the extent that they do, federally assisted programs and projects are more likely to be better coordinated, resulting in dollar savings, better projects and more value for public investment.

In short, A-95 cannot assure coordination, but it is designed to create a climate for intergovernmental cooperation in which such coordination is more likely to come about.

c. A-95 should clearly state the objectives of Title IV, but it should not be prescriptive as to the means by which the objectives are achieved. All of the requirements of A-95 go to Federal agencies and applicants for Federal assistance. That is, A-95 sets forth a system under which Federal agencies and applicants for Federal assistance must give State and local governments, through areawide and State clearinghouses, an opportunity to assess the relationship of their proposals to State, areawide, and local plans and programs. Federal agencies must consider these assessments in the light of the mandates of Title IV (specifically Section 401(c)) in deciding whether or not to approve the project. However, recognizing the great diversity among states, regions, and localities in the manner in which the public business is conducted, A-95 puts few constraints on clearinghouses in the way they carry out the review. They are limited as to the time allowable for review and are obligated to identify individual jurisdictions and agencies upon whose plans and programs any proposal may impact and give them an opportunity to participate in the review. However, A-95 does not prescribe:

- The existence of clearinghouses as such;
- The organization of clearinghouses;
- The procedures and techniques by which clearinghouses carry out reviews; or
- Whether or not clearinghouses even carry out reviews for any categories of projects or programs covered by the Circular.

In short, A-95 is designed to provide an opportunity for governors, mayors, and county officials and other State and local officials, through clearinghouses, to influence Federal and federally assisted programs and projects that may affect their own plans and programs.

It should be stressed, however, that the comments made by the clearinghouses are advisory only. A supportive review will not assure Federal approval of an application, nor will a negative review constitute a veto.

Section 204 of the Demonstration Cities and Metropolitan Development Act of 1966 states that areawide agencies (clearinghouses) should be comprised to the greatest extent practicable of local elected officials, and most are. Althouth OMB encourages this approach, neither the Act nor A-95 sets it out as a requirement in order to accommodate State law and to provide local governments with maximum flexibility.

d. The primary value of A-95 reviews is not to second guess the experts in any program area but to disclose external impacts of proposed projects. For instance, a proposed hospital may be very well designed, but an application will not disclose the fact that it, in conjunction with other proposed projects in an area, will overload the sewer system. If the toilets back up, it will not be a good hospital. A-95 can bring such considerations to light and set in motion actions to adjust: re-site hospital, expand the sewer capacity, etc. Thus, functional expertise is not as critical to clearinghouses as is the generalist capability of comprehensive planning to identify linkages among functions and programs. Moreover, the referral (to potentially affected jurisdictions and agencies) system of the clearinghouse will tend to involve functional experts to a greater extent.

e. A-95 should not be considered a "license to manufacture red tape." The review process is a service to clientele governments of clearinghouses to enable them to get the best possible project to meet their needs. Many clearinghouses have developed quick screening processes so they can spend their review resources on projects most likely to have an intergovernmental impact. Although at least 60 days (two 30-day periods may be involved) are permitted for review, most are consummated in half the time.

## PART I: PROJECT NOTIFICATION AND REVIEW SYSTEM

1. The process in brief.

The Projection Notification and Review System (PNRS) may be thought of as an "early warning system" to facilitate coordination of State, regional, and local planning and development activities that are assisted under various Federal programs. Coordination is sought through review of applications for Federal assistance by or through State and areawide clearinghouses. The clearinghouses are generally comprehensive planning agencies and, at the areawide level, are usually organizations predominantly comprised of elected officials of general purpose units of government.

The PNRS is referred to as "an early warning system," as it is a two-step process. The "early warning" step occurs when an applicant-to-be decides he will seek Federal assistance. At this point, he notifies both the State and the areawide clearinghouse, signaling his intent and describing in summary fashion the project or activity for which he will be seeking assistance.

The idea at this stage is to identify possible issues or problems so that the applicant will be saved the trouble and expense of preparing an application for which a clearinghouse may subsequently identify serious problems.

The clearinghouses will examine the notification to determine if there are any actual or potential problems with the application in terms of State or areawide plans and programs. They will also try to identify any individual agencies or jurisdictions having plans or programs that may be affected by the proposed project. The clearinghouses will assure that such agencies or jurisdictions are given an opportunity to review the proposal.

Within 30 days of receiving the notification, the clearinghouses must indicate to the applicant whether or not there are any actual or potential issues with the proposal. If there are none, the applicant has fulfilled his obligation to complete and submit his application to the funding agency, unless the clearinghouse specifies that it wishes to review the completed application. If so, it may have an additional 30 days.

At any time during the initial 30 days that identified issues are resolved, the clearinghouse may "sign off," concluding the review. At any time after the initial 30-day period, if there are still unresolved issues pending, the applicant may submit a copy of his completed application for final review, and any comments of the clearinghouse (or others) must be submitted to the applicant within 30 days. The applicant must include all comments with his application, when he submits it to the funding agency. The funding agency will utilize such comments in evaluating the application.

## 2. Clearinghouses.

There are two types of clearinghouses: State and areawide. State clearinghouses are designated by the Governor and are usually State comprehensive planning agencies. Areawide clearinghouses are substate in scale although there are a number of interstate clearinghouses covering bi- or tri-State metropolitan areas. Areawide clearinghouses are also usually comprehensive planning agencies.

The Office of Management and Budget normally designates areawide clearinghouses covering metropolitan areas. Governors designate all others. However, it is OMB policy to seek the concurrence of the Governor before making a designation, so it is a distinction with little significant difference. In practice, since the original metropolitan designations were made pursuant to Section 204 of the Demonstration Cities and Metropolitan Development Act of 1966, many or most recommendations for designations of new clearinghouses or changes in existing ones have come from the Governors (or State clearinghouses) and OMB has concurred. This, of course, is consistent with Part IV of OMB Circular No. A-95.

The main reason that OMB has reserved the final word on metropolitan areawide clearinghouses to itself is to assure that interstate metropolitan areas are treated as a whole and that the urbanized core of any metropolitan area is not fragmented. This is not to say, however, that OMB holds to any doctrinaire approach to arrangements for carrying on areawide planning and intergovernmental coordination. For any metropolitan area, OMB will recognize any arrangements for which there is general

consensus among the local governments in the area for carrying out the requirements of Circular No. A-95. As noted above, concurrence of the State in those arrangements will be an important factor in the OMB determination.

3. Elements of the process.

a. Notification. Paragraph 2 of Part I describes the type of information to be included in the notification and indicates certain exemptions.

It is critical that notifications be sent at the very earliest possible time, even if all of the summary information is not available or is sketchy. If necessary information is not available, it can be fed in as it is developed. The main thing is that the stage is set as early as possible for issue identification, negotiation, and resolution. By following this rule the review process will be expedited so that by the time the applicant completes his application, any issues will have been resolved or, if not, clearinghouse comments can be readily prepared.

Notifications must be sent to both the State and the areawide clearinghouses. However, if the project is of a type - as for certain kinds of research - where no specific areawide or local impact can be identified, the notification need be sent only to the State clearinghouse. If the State clearinghouse discerns potential interest on the part of any or all areawide clearinghouses, it can then involve them in the review. If the applicant is uncertain as to whether his proposal falls into this category, he may consult the State clearinghouse or the areawide clearinghouse from the jurisdiction of which the application will emanate.

This paragraph also notes that federally recognized Indian Tribes are exempt from the review requirements. Because of certain treaty rights, the Tribes have a unique status vis-a-vis the Federal Government and deal with them directly, and do not "go through" State or local governments in such dealings. However, because tribal projects may affect State or local plans and programs, Federal funding agencies are required to inform State and local clearinghouses of any application received from a Tribe. If a clearinghouse sees any problem, it can take it up with the Tribe or register its concern with the funding agency.

However, Tribes are urged to participate voluntarily in the review process as there are substantial benefits to be derived. These might include technical assistance from clearinghouses in planning better or more economical tribal projects or receiving timely information about and opportunity to influence other proposed projects that might affect tribal interests or land. Of course, direct participation would also obviate any delays in application processing that might derive from Federal information referencing of tribal projects to clearinghouses.

While the primary purpose of the PNRS is to coordinate federally supported programs with State, areawide, and local plans and programs, it should be remembered that the purpose of Federal programs is to help the applicant in the solution of a problem. Therefore, the PNRS emphasis should be on helping the applicant to develop the best possible project to achieve his objectives in a manner that will not do violence to the plans and programs of other jurisdictions and agencies.

b. Clearinghouse functions. (Paragraph 3 of Part I.)

The term "clearinghouse" is meant to fully reflect the functions of these agencies:

- To identify the relationship of any project to statewide or areawide comprehensive plans, and
- To identify the relationship of any project to the plans or programs of particular State agencies or individual local governments.

While clearinghouses are expected to have comprehensive planning capabilities or direct access to such capabilities in order to identify the compatibility of proposed projects to statewide or areawide plans, the "clearinghouse" aspect is equally important. It can happen that a project which is not inconsistent with State or areawide comprehensive planning may be in conflict with the plans or programs of a particular State or local agency.

Thus, when an applicant sends a notification to the State clearinghouse, the clearinghouse will not only examine the project from the standpoint of State comprehensive planning

but will forward a copy of the notification to any State agencies having plans or programs that might be affected to ascertain their interest in participating in any follow-up conferences with the applicant. The areawide clearinghouse to which the applicant also sends the notification will, similarly, contact specific local governments and agencies which might be affected.

Identification of jurisdictions and agencies with related programs and their involvement in the review process is a critical feature of PNRS, in view of its role of dealing with the external impacts of projects. Thus, community action or model cities agencies should be drawn into reviews of projects affecting the poor; school boards should participate in reviews of projects relating to child and youth development. Any governmental jurisdiction or agency that may be affected by a proposed project should be given an opportunity to participate in its review, whether or not that jurisdiction is a member of the clearinghouse.

Paragraph 3 identifies two types of agencies where review involvement is specifically obligatory: State and local environmental agencies on projects for which an environmental impact statement may be required; and State and local public agencies responsible for the enforcement of civil rights laws or for the furtherance of their objectives (e.g., human relations commissions).

Questions have frequently been raised about the involvement of citizens' organizations in the review process. Because A-95 is based specifically on legislation aimed at intergovernmental cooperation, it does not make such involvement obligatory. Also, from a practical standpoint, a clearinghouse, except in more rural areas, will probably not be aware of all of the myriad citizen groups in a region. However, to the extent that such groups can be identified, their involvement in A-95 reviews can be beneficial. Therefore, OMB encourages clearinghouses to seek appropriate private citizens' and community organization inputs to their reviews. Frequently the local jurisdictions and agencies to which notifications are referred by a clearinghouse will have a better idea of which citizen groups should be involved and may bring them into the review process. Good examples are

the civil rights agencies which will know the proper minority group organizations to bring in to consider the civil rights implications of a project.

Relationships established with State and local agencies - including quasi-governmental and private agencies - through conscientious application of the "clearinghouse" aspect of the PNRS can enhance the status of the individual clearinghouse as a focal point for planning coordination and can lend popular and private sector support to clearinghouse activities. In addition, the expert inputs of these agencies to the review process represent a useful supplement to the clearinghouse's own review resources and capabilities.

c. Consultation and review.

Paragraph 4 sets forth the review process itself, as described above. Of particular additional note are the following:

(1) Areawide clearinghouses are required to include any written comments of individual jurisdictions, agencies, or organizations submitted to the clearinghouse as part of the review of any proposal. However, only comments that are at variance with those of the clearinghouse need be included as attachments to the clearinghouse comments. The reason for this rule is twofold:

- To assure that the funding agency gets the full range of local views on any project; and
- To assure all those who do present views on a given project that those views will be considered by the funding agency in the final evaluation of the proposal.

While this is already the practice of many or most areawide clearinghouses, there have been instances where individual jurisdictions, agencies, or organizations have expressed discouragement at participating in the review process because they felt that their views were not reflected - adequately or at all - in the comments of their clearinghouses. This new provision should promote higher level confidence in the process on the part of those making inputs to it.

(2) One important thrust of both statutes on which A-95 is based is to promote the primacy of general purpose over special purpose units of local government. Therefore, in the case of applications from special purpose units, clearinghouses must involve any general purpose unit in the jurisdiction of which the project will be located in the review to assure that functions of the latter are not being preempted. If the general purpose unit is contemplating a similar project, as indicated by the review, the Federal agency must give it preference. If it cannot, it must justify the award to the special purpose unit.

(3) No matter how jurisdictional lines are drawn in areawide clearinghouses, there will always be some spillover of impact between adjacent clearinghouses. This is particularly true for heavily urbanized areas, especially in the great "megalopolises" such as the Boston to Washington urban strip where SMSAs are contiguous for hundreds of miles. Therefore, it is important that adjacent areawide clearinghouses establish arrangements to coordinate joint planning and review for spillover activities.

d. Subject matter of comments and recommendations.

Paragraph 5 indicates some of the aspects of project proposals to which clearinghouses may want to address their comments. Most of these are taken verbatim from Title IV of the Intergovernmental Cooperation Act and Section 102(2)(c) of the National Environmental Quality Act.

However, the list of items or considerations under Paragraph 5 are suggestions only. The clearinghouse need not address each question, nor is it constrained by Paragraph 5 from discussing any aspect of a proposal, whether or not listed. And, of course as noted above, the clearinghouse need not comment at all on any given proposal. In fact, clearinghouses should try to develop a screening process to weed out projects with no areawide or interjurisdictional spillover, so that they may devote their review resources to projects with potential intergovernmental

impact. However, individual Mayors or County Boards of Supervisors may wish to look at all projects proposed in their jurisdictions. When such requests are made of clearinghouses by individual jurisdictions, the clearinghouses will assure them such opportunity and make sure their comments are transmitted to the applicant.

e. Federal agency procedures.

Paragraph 6 notes the obligations of Federal agencies to assure that applicants are informed of A-95 requirements and that they understand that applications that have neglected these requirements will not be considered. They are also required to inform the reviewing clearinghouses of any major substantive action taken on each application. A new provision would oblige the funding agency to provide the clearinghouse with a written explanation, when it has approved an application that the clearinghouse has recommended be disapproved or approved only with substantial modification.

The reason for these feedback provisions (information of action taken and explanation of contrary action on negative recommendations) centers on the role of the clearinghouse as a comprehensive planning agency. Timely information on what or what is not going to happen and an understanding of why something that may be contrary to State, regional, or local plans is going to happen is critical to the comprehensive planning process. Depending on Federal action, adjustments in planning assumptions and projections and of various elements in the plan may have to be made, if it is to be a useful guide to development in the area.

f. OMB Circular No. A-102.

Paragraph 7 deals with the relationship between A-95 and Attachment M of Circular No. A-102. Attachment M establishes a standard preapplication for certain categories of Federal grants, primarily for construction. Its purpose is to expedite reviews of these proposed projects and to save applicants the cost of preparing detailed plans for projects that may not be fundable. To require applicants to go through the A-95 review prior to the preapplication would defeat, in some measure, the objectives of A-102. On the

other hand, a major objective of A-95 is coordination. The need to expedite and the need to coordinate are always at war. Thus, if the applicant is told by the funding agency that it has a potentially fundable project and later on, in the course of A-95 review, it turns out that the project has serious problems adverse comment from the clearinghouse, the applicant will feel thwarted, even though a positive response on a preapplication is no guarantee that the project will, in fact, be funded. Neither the applicant, the clearinghouse, nor the Federal agency wants to be put in such a position.

The answer, under Paragraph 7, is to send a copy of the preapplication to the clearinghouses at the same time that it is submitted to the funding agency. Then, if a clearinghouse sees possible problems with the project, it will signal the funding agency and the applicant. If the project is otherwise deemed fundable, the Federal agency may then respond conditionally (if it deems the clearinghouse concern well-founded) to the effect that the project appears fundable to the extent that no substantive problems are disclosed in the subsequent A-95 review. The applicant himself may decide, also, on the basis of clearinghouse comments to pull back the preapplication for modification.

After the funding agency responds to the preapplication, the regular A-95 review process is undertaken. However, due to the earlier exposure of the clearinghouse to the proposal, identification and resolution of issues should be facilitated and the review expedited or even obviated.

The A-102 preapplication form contains much the same kind of information as does the A-95 notification. As experience is gained with the A-102 preapplication process, it may be desirable to utilize that form for A-95 purposes. While many clearinghouses have developed their own forms, use of a standard form may offer advantages for information tracking and transfer purposes. It may also be possible to meld the process for delivering information on grant awards under Treasury Circular No. 1082, formerly OMB Circular No. A-98, into a coordinated process with A-95 and A-102. Current pilot studies on regional grant information systems under the auspices of the New England and Southwest Federal Regional Councils may contribute to fulfilling this potential.

g. Housing programs.

Paragraph 8 describes the specialized review process devised to cover Federal housing assistance programs of HUD, USDA, and VA. The review process is shortened for these programs, and the formal relationship is between the Federal agency and the clearinghouses rather than between applicant and clearinghouses. A minimum size is set for housing projects subject to review, and the requirement applies only to new construction, but it does cover loans, loan guarantees, mortgage insurance or other housing assistance.

Basically, the process works like this: a developer will submit an application to the Federal agency, that is preliminary in nature, the purpose of which is to establish the feasibility and/or eligibility of the proposed project for the type of assistance sought. The application contains a description of the project, detailed enough for evaluation purposes but lacking detailed construction plans. The Federal agency will send copies to the clearinghouses which have 30 (formerly 15) days to review it and to submit any comments back to the agency. The 30-day period is a floor, and agencies will generally accept comments up until the time (beyond 30 days) when their own evaluation is complete.

Some HUD offices have been urging developers to contact the clearinghouses - particularly the areawide clearinghouses - prior to submittal of applications. This enables the developer to acquaint himself with the review process and, in the case of any particular project, to identify any major potential difficulties that could cause delay or even rejection of the project.

The size of proposed housing projects subject to review has been lowered substantially. Moreover, since the relative impact of project size may vary with the size of the community, a distinction has been made between urbanized and other areas. "Urbanized" is described as a city of 50,000 or more plus contiguous areas having a population of 100 or more per square mile. For urbanized areas, the floor is

subdivisions of 25 lots or multifamily projects of 50 units. Comparable figures for other areas are 10 and 25. Mobile home courts (50/25 spaces) and college housing (200/100 students) follow the same pattern.

When housing programs were first put under A-95, it was expected that the main interest of the clearinghouses would be in their utility in indicating the scale and direction of urban growth. As it developed, areawide clearinghouses were not content to simply receive and digest information about probable housing starts. Housing reviews have tended to focus on the impact of proposed projects, individually and collectively, on the supply of facilities and services in place or needed to serve the new inhabitants of these developments. Many of the clearinghouses conscientiously developed checklists and canvassed area and local agencies on the sufficiency or adequacy of:

- ° Water and waste disposal facilities and services,
- ° Transportation,
- ° Schools,
- ° Police and fire services,
- ° Hospitals and health services, and
- ° Recreational facilities and services.

Moreover, fundamental environmental questions were considered: adequacy of soils to support proposed development and tree cutting, grading, and runoff problems. Similarly economic impacts - especially on the local tax base - were considered by many in evaluating housing developments.

h. Exceptions.

Paragraph 9 provides a means by which Federal agencies may seek to except certain categories of projects from A-95 review. Various criteria are set forth by which OMB will evaluate requests for exceptions. These include (1) lack of geographic identity, (2) smallness of scale, (3) purely local impact, or (4) other characteristics that would make review impractical. OMB as a matter of policy consults with major public interest groups representing State and local government before granting any exception.

Where exceptions are granted the applicant is still required to file a copy of the application with the appropriate clearinghouse. If the clearinghouses should see any problem with the proposal, these can be communicated directly to the funding agency.

Individual clearinghouses may, themselves, also except programs or categories of projects from applicants within their jurisdictions, under such circumstances as may seem practical.

Although OMB has granted few exceptions, and the same may be true for clearinghouses, the inclusion of a greater number of social programs under PNRS coverage may disclose more situations where exceptions are practical and feasible than the construction programs have in the past. This is because small scale, more sharply focussed projects will tend to be more frequent under various of the social programs. Clearinghouses without previous experience with social programs will need to exercise considerable caution and may need to rely much more on the expertise of its member jurisdictions and other agencies and organizations in the area.

A question related to exceptions but not dealt with in the Circular involves the end of the fiscal year syndrome and other emergency situations where applications must be submitted by a previously unknown date which does not allow time for a full A-95 review. When an agency informs OMB of this situation, it has been OMB practice to instruct the agency to tell the applicants that they must inform the clearinghouses of the situation and provide as much time as possible for review. Further, a copy of the application must go to the clearinghouses at the same time (or earlier) as it is submitted to the funding agency with notice that the funding agency will consider any comments sent to it until such time as it has completed its own review of the application. This may not be entirely satisfactory, but it is a fact of life, given erratic funding and appropriations timing under various programs. Most clearinghouses have attempted to accommodate to this circumstance in providing service to their clienteles.

#### 4. Coverage under Part I.

The revision of November 1, 1973, expands the coverage of PNRS to a wider array of human resource programs in the areas of health, education, and manpower. While there

have been a number of human resources programs (Community Action, law enforcement, juvenile delinquency, etc.) under similar coverage, many or even most areawide clearinghouses have been primarily oriented to physical development. Nevertheless, in dealing with these problems, they have, inevitably, had to deal with human resource questions. The interfaces between transportation and employment, for instance, or health and the environment has led many to develop considerable sensitivity to these relationships. Moreover, a great many of the areawide clearinghouses, are also, variously, law enforcement planning agencies, comprehensive health or manpower planning agencies, as well as comprehensive land-use and physical development planning agencies and consequently have developed some expertise in those areas.

However, the most important capability for a clearinghouse to undertake review responsibility for a variety of new programs in areas in which they may have relatively little staff expertise is the ability, first, to identify the relationships between any proposed project and other functional areas; and, second, to identify the agencies in the area that can provide critical and/or expert inputs into the review. Few clearinghouses have the resources to employ all the expertise they need to carry on the A-95 review for all programs covered, even before expansion. Inevitably, most clearinghouses have to turn to other agencies, public and private, to supply expert analysis to supplement their staff.

As a general guide to coverage, reference should be made to either Attachment D or to the Catalog of Federal Domestic Programs, whichever bears the latest date. Because of the information in funding status, the June, 1973, Catalog does not reference a number of programs that have been subsequently funded. It also does not reference a number of established programs. These are referenced in Attachment D, the November 13, 1973, revision of A-95. As a general rule, programs which may not be funded at the time of issuance of the November 13 revision and are therefore not referenced but are funded subsequently will become covered if they have been previously covered. Clearinghouses will be specifically informed, when and if such circumstances occur, by A-95 transmittal memoranda or the Catalog, whichever is the more expeditious.

A further element of coverage may be provided under State law. A number of States have, in effect, built A-95 into state law and have provided for a broadened coverage, such as for all applications for Federal grants emanating from state agencies. Paragraph 3.a. of the main body of the Circular provides that in such States the pertinent Federal program agencies will respect the additional State requirement, unless it is determined that to do so would be inconsistent with the Federal program statute and the objectives of A-95.

Additional questions on Part I.

a. Financial support for A-95 reviews. There is no specific financial support provided by the Federal Government to assist clearinghouses bear the costs of the A-95 review. The HUD "701" program recognizes A-95 as an eligible work item on the annual programs of 701-assisted agencies that are also A-95 clearinghouses. Other agencies are encouraged, where their program legislation would permit, to assist clearinghouses in shouldering A-95 costs.

A closely related question is that of fees for clearinghouse review. OMB does not feel that it can prevent clearinghouses from trying to charge applicants fees for reviewing their applications pursuant to A-95. At the same time, OMB does point out to applicants that they are under no obligation to pay a fee for such a review. The only obligation of the applicant is to give the clearinghouse an opportunity to review his application. If the clearinghouse does not take advantage of that opportunity within the allotted time, the applicant is free to submit his application to the funding agency with a statement to the effect that he has followed the requirements of A-95 and has received no comment from the clearinghouse.

Aside from this, it is the OMB view that fees are undesirable, as they are conducive to log-rolling and other practices not in keeping with the objectives of A-95. Support for A-95 reviews from whatever source preferably should not be on a per project basis, but should be generalized, so that there can be no suspicion that any individual project is endorsed because of the review payment attached to it.

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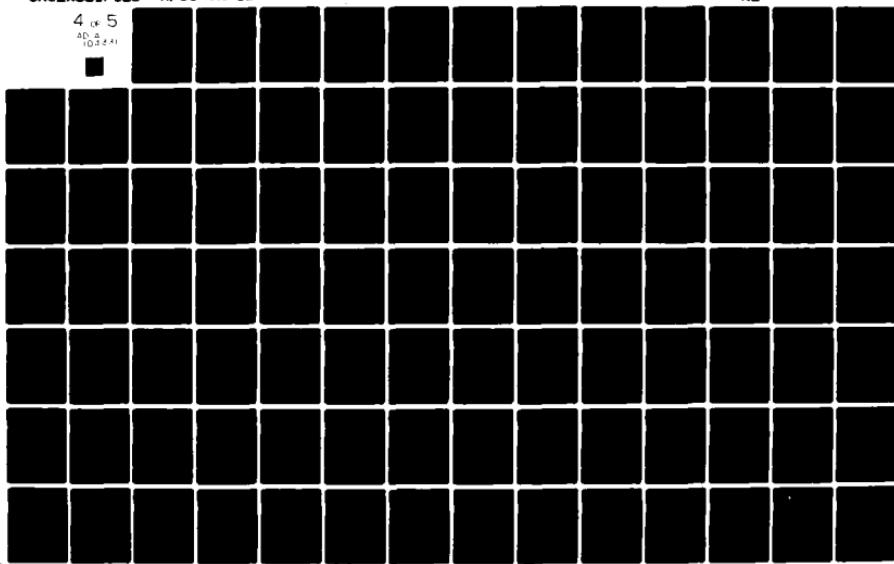
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### B. Relationship of A-95 and Environmental Impact Statements

There has been considerable confusion as to the role of the clearinghouses in implementing Section 102(2)(c) of the National Environmental Quality Act which deals with environmental impact statements (EIS). Section 102(2)(c) calls, in effect, for inputs into the development and evaluation of EISs by State and local agencies authorized to develop and enforce environmental standards. The A-95 clearinghouses provide a vehicle for securing these inputs, and the review process specifically represents the means by which such inputs into the development of the EIS can be achieved.

These relationships are spelled out in detail in "Preparation of Environmental Impact Statements: Guidelines," Regulations, Vol. 38, No. 147 - Wednesday, August 1, 1973, Appendix IV, p. 20562.

### c. Part I coverage of formula grants.

Formula grant programs require State plans which are listed under Part III of A-95. However, many of these State plans are quite generalized in nature and give little information about the specific projects that will be funded under them. In some cases, therefore, these programs will not be listed under Part I so that clearinghouses and their clienteles may have an opportunity to react to specific project proposals. Thus, when a formula grant program is listed under Part I, it is not the State plan or the State application for its allotments that is to be reviewed but applications for funding of specific projects or subgrants.

It should be noted that, for some of the formula grant programs which require PNRS review of specific project applications, the Federal agency which administers the formula grant has final approval authority over such applications. In other words, it approves or disapproves the subgrant with no requirement for Federal agency concurrence. Examples are law enforcement assistance subgrants and library construction subgrants. This does not obviate the need for clearinghouse review. If the advice and recommendations of clearinghouses can be useful to Federal administrators in evaluating project applications, they should be equally useful to State program administrators.

d. The Federal interest in PNRS.

While it should be obvious enough, Federal agencies administering the Federal taxpayers' dollars have an obligation to see that program funds are used as effectively as possible. Therefore, the potentialities under PNRS for revealing possible conflicts that could cancel out the beneficial effects among Federal programs or between jurisdictions can help the Federal administrator fulfill this obligation. Or, put more positively, PNRS can reveal opportunities for improving projects by making them more complementary or combining them, thus reducing, not only conflict, but expensive duplication. As noted earlier, Federal internal review procedures may be effective in evaluating a proposed project in its own terms, but they will not generally reveal the external impacts of a project that can make or break it. However, positive clearinghouse comments - or even "no comment" - can give reassurance to the Federal administrator that external effects of a project are either beneficial or minimal.

PART II: DIRECT FEDERAL DEVELOPMENT

Part II requires that Federal agencies engaged in direct development of Federal projects such as Federal civil works, military or scientific installations, public building, etc., must consult with State and local governments that might be affected by those projects. Where projects are not in conformity with State, regional, or local plans the Federal agency will be required to justify any departures. The requirement applies not only to construction but to the acquisition, use, and disposal of Federal real property.

A particular note is the definition of "direct Federal development" in the definitions section of A-95 (Part V). The definition includes not only development undertaken by Federal agencies but development undertaken for the use of the Federal Government or any of its agencies. Thus, Federal lease-purchase developments or developments undertaken specifically for lease or sale to the Federal Government would be included.

In addition, in the preparation of environmental impact statements pursuant to Section 102(2)(c) of the National Environmental Policy Act, these Federal development agencies

are required to seek the views and comments of State and local environmental agencies. Regulations of the Council on Environmental Quality indicate the clearinghouses as the appropriate channel through which to secure the required State and local views and comments.

The clearinghouses designated pursuant to Part I of the Circular provide the most effective vehicle available to Federal development agencies to assure that all appropriate State and local agencies are consulted on proposed projects. The clearinghouses are generally the State, metropolitan, or regional comprehensive planning agencies; and in conducting the PNRS reviews they have occasion to identify the interests of all development agencies at State and local levels. Thus, Federal agencies will generally need to touch base with clearinghouses in any event. And while the nature of Federal development with its variable congressional and executive constraints may not always lend itself to the project identification and review system procedures *per se*, the clearinghouses can greatly facilitate the consultation required under Part II of revised Circular No. A-95.

The element that has been somewhat confusing to clearinghouses and others is a transplant from another OMB Circular - A-57 - that has been rescinded. This requirement applies to Federal medical facilities such as VA or military hospitals. It requires Federal agencies contemplating development or expansion of such facilities costing over \$200,000 to have their proposals reviewed by State and areawide comprehensive health planning agencies (314a and 314b). These reviews are to assist OMB in evaluating the proposals for Federal budgetary purposes. Since the A-95 clearinghouses will also review many or most such proposals under Part II, provision is made for the clearinghouses as the point of entry into the review system through which the reviews of the required health planning agencies will be secured.

### PART III: STATE PLANS AND MULTISOURCE PROGRAMS

Various Federal assistance programs require, as a condition of assistance, submission of State plans (or "operational plans," "plans of work," etc.). These are highly variable in nature and content. While some are plans in the normal sense - "What do I want to do and how I am going to do it" - others only indicate the basic administrative apparatus through which the program will be carried out. However,

as related documentation required to be prepared or submitted on a periodic basis will generally provide information as to the specific activities for which program funds will be spent, even though this information does not appear in the "plan" itself.

A guide to programs requiring State plans may be found in Appendix II of the Catalog of Federal Domestic Assistance. At any given time, however, this may not be all inclusive.

Part III requires that Governors be given an opportunity to review such plans or associated documents indicating proposed program activities. This will permit the Governor to relate development strategies among the various federally supported State programs to each other and to any overall strategies developed through the State comprehensive planning process. Because many of these State plans will have strong implications for areawide or local plans and programs, Governors are encouraged to involve areawide clearinghouses in Part III reviews, wherever appropriate.

Analogous to State plans as a precondition for Federal assistance are the plans or annual work programs that provide the basis for funding of related projects from various program sources. The prime example is the Integrated Grant application. Others listed under Part III are areawide manpower plans, the DOT unified work programs, and EPA's consolidated program grants. Others may be added to the list as they are developed.

With the State plans, the multisource programs are reviewed by State and areawide clearinghouses. However, 45 days are also provided for the review. Reviews of multisource programs can obviate review of the individual projects that may be under programs covered by Part I and are included in the multisource program. At the very least, such reviews, where deemed necessary, should be substantially expedited.

#### PART IV: COORDINATION OF PLANNING AND DEVELOPMENT IN MULTIJURISDICTIONAL AREAS

Part IV of the Regulations was originally developed to offset a growing tendency among Federal programs to promote the establishment of areawide planning activities that were uncoordinated geographically, functionally, or organizationally. In nonmetropolitan areas this has meant a serious

strain on already limited planning resources. In metropolitan areas, it has intensified confusion and general duplication of effort.

Part IV of the Regulations is closely related to Part I. By encouraging the States to develop systems of substate planning areas, it sets the stage for a more complete geographic coverage of the Project Notification and Review System.

Similarly, the PNRS, by requiring clearinghouse review of projected planning and development activities under various Federal programs, sets the stage for the more systematic and continuing planning coordination envisioned under Part IV.

Originally, the primary thrust of Part IV was to bring a measure of conformity, or at least consistency, in the geography of planning areas. This is an important precondition of effective coordination arrangements among various areawide planning activities. As States have developed substate district systems - most have, and a majority are fully operational - and as progress has been made in connecting Federally designated planning areas with them, the thrust and emphasis has moved to improving arrangements for fully coordinating areawide functional planning with the comprehensive planning carried on by the substate district organizations.

In 1972, OMB asked the major public interest groups representing State and local government\* to evaluate Federal agency implementation of Part IV. A major recommendation of that study was that Federal agencies utilize, to the greatest degree possible, the substate district organizations (called "umbrella multijurisdictional organizations" - "UMJOS" - in the study) to meet areawide planning requirements. The UMJOS were described as being predominantly composed of elected officials of general local government. Since responsibility for carrying out areawide functional planning is vested in an agency other than the UMJO, the study recommended that policy control be vested in the agency. A policy statement embodying these general ideas has been adopted by most of the public interest groups participating in the study.

\* American Association of State Governments, National Governors' Association, National Legislative Conference, National League of Cities, U.S. Conference of Mayors, National Association of County Commissioners, and International City Management Association.

The Advisory Commission on Intergovernmental Relations,\* in a massive study of substate regionalism, adopted similar recommendations, although substantially stronger.

The current revision of Part IV moves in the direction of the general thrust of the public interest group and ACIR recommendations. It does this in two ways:

- It encourages, but does not require, Federal agencies administering programs assisting or requiring areawide planning to utilize the substate district organizations (almost always A-95 clearinghouses) to carry out such planning.
- It requires that the regulations of programs supporting areawide planning provide for a memorandum of agreement, when the organization being funded for areawide planning is not the district organization, between that organization and the district organization. In the case of interstate metropolitan areas, the required agreement would be between the interstate A-95 areawide clearinghouse and the applicant agency. The memorandum of agreement would identify the means by which the two would coordinate their related planning activities.

The agreement would cover any provisions for joint studies and utilization of resources, organizational arrangements, and utilization of common and consistent statistics, projections, and assumptions about the area and its future. The latter is extremely important, both in terms of resource savings and in eliminating one of the basic sources of plan conflicts.

The achievement of these coordinative arrangements, then, is a necessary concomitant effort with conforming boundaries; for a common territorial base by itself does not assure coordination. There must be contact, communication, and cooperation between organizations planning for various aspects of area development for that to occur.

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\*The ACIR is a statutorily established intergovernmental research organization, the membership of which represents Federal and State executive and legislative branches, counties, municipalities, and the public.

While Part IV indicates the various subject matter to be covered in the agreement, it does not prescribe the form or substance of the agreement. Those are matters to be negotiated between the two organizations. Where an agreement cannot be consummated, Part IV provides that the organization applying for assistance must indicate in the application the issues which have prevented agreement. The funding agency, in cooperation with the Federal Regional Council and the State clearinghouse, would assist the two organizations to resolve the issues and conclude an agreement. If no resolution is possible after 30 days the funding agency could award the grant, if the application is otherwise in good order. Of course, it could also refuse to award the grant unless an agreement were concluded.

If the applicant organization is applying for areawide planning assistance for an area less than or not coterminous with that of the substate district (or the A-90 areawide clearinghouse jurisdiction in the case of Interstate metropolitan areas), it would have to develop memoranda of agreement with each substate district (or Interstate areawide clearinghouse) into which that area extends.

The major programs assisting areawide planning (not necessarily exclusively) are:

- HUD: Comprehensive planning (701) program.
- DOT: Urban highway planning; mass transportation planning; airport systems planning.
- EPA: Water quality management planning; air pollution control planning; solid waste planning.
- HEW: Comprehensive health planning (314b); planning for the aged.
- DOL: Areawide manpower planning.
- USDA: Resource conservation and development planning.
- OEO: Community action planning.
- EDA: Economic development district planning.
- ARC: Local development district planning.
- LEAA: Law enforcement planning.

## SUMMARY

OMB Circular No. A-95 is fundamentally an effort to create a climate where intergovernmental cooperation can take root and flourish. It does this by creating opportunities for contact and communication within and among the several levels of government. This contact and communication is a necessary precondition for coordination.

In order to take full advantage of those opportunities, it is important that the various actors think of the requirements as opportunities, rather than as administrative obstacles:

- The applicant should recognize the opportunity to develop a better project through avoidance of conflict and the discovery of means for getting the most value for its investment.
- The Federal agency should recognize the opportunity for increasing program effectiveness through the same means and through applicant awareness of the need for sound planning and coordination.
- The clearinghouses should recognize the opportunities for providing real service to applicants which will enhance clearinghouse credibility and status as a constructive force in the area or in the management of the State government.

In sum, the regulations promulgated under Office of Management and Budget Circular No. A-95 are aimed at promoting more effective coordination of planning and development activities carried on or assisted by the Federal Government. The major device of A-95 is encouragement of systematic communications between the Federal Government and State and local governments carrying out related planning and development activities. Used judiciously by State and local governments and regional bodies, the processes set forth in A-95 can result in more expeditious, more effective, and more economical development of physical, economic, and human resources.

## PROJECT NOTIFICATION AND REVIEW SYSTEM

The following outlines the process of the "Project Notification System" developed to implement, in part, Title IV of the Intergovernmental Cooperation Act.

- Step 1. Potential applicant desiring Federal assistance makes inquiries of Federal agency.
- Step 2. Funding agency informs applicant that among other things, it must notify both State and areawide clearinghouses about the project for which it intends to apply for assistance.
- Step 3. Applicant notifies clearinghouses.
- Step 4.a. State clearinghouse notifies State agencies which might have programs affected by proposed project, including where appropriate, environmental agencies and State agencies responsible for enforcing or furthering the objectives of civil rights laws.
- 4.b. Areawide clearinghouse notifies local government agencies whose interests might be affected by the proposed project including, where appropriate, local and regional environmental agencies and public agencies responsible for enforcing or furthering the objectives of civil rights laws.
- Step 5. State agencies or local governments inform clearinghouse of interest, if any.
- Step 6. Clearinghouse arranges conferences with applicant within 30 days of notification pursuant to its own or other State or local interest.

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Step 7. Conferences are held to:

- a. Explore project in greater detail.
- b. Identify possible conflicts or mutuality of interest.

Step 8. If continuing interest, applicant and clearinghouses (with any State or local interest), cooperate in developing application to:

- a. Resolve conflicts.
- b. Strengthen project.

Step 9. If conflicts are not resolved, clearinghouse notifies applicant that it will have comments to accompany the application. (Note: Conflicts may arise as between clearinghouses or particular local governments as to the merit of a project, so such comments may be variously supportive or critical.)

Step 10. Applicant submits final application (or inadequate project description) to clearinghouse(s) for comment, providing 30 days therefore.

Step 11. Clearinghouse(s) submits any formal comments of its own or of particular State agencies or local governments to applicant.

Step 12. Applicant submits application to funding agency, including comments, if any, or, if none, a statement that requirement has been followed.

Step 13. Funding agency considers application and comments and informs clearinghouses of action taken thereon.

It is possible for the process to come to a satisfactory conclusion at the completion of Steps 5, 7, or 8, as well as, of course, Step 13. At either of the earlier Steps, clearinghouses can inform applicant of general satisfaction with the project and that they will have no (or supportive) comment. In such case, the applicant completes the application and submits it to the funding agency with a statement that the requirement has been followed (or with any supportive comment).

Step 12. Information to clearinghouses on action taken on the application by the funding agency is, of course, always required.

In cases where the funding agency approves an application on which a clearinghouse has recommended disapproval, the funding agency must supply the clearinghouse, in writing, its reasons therefor.

OTB TEST WORM  
BUREAU OF PUBLIC LANDS  
MAINE DEPARTMENT OF CONSERVATION

September 13, 1974

INTRODUCTION

Both as proprietor of part of the proposed OTHB receiver site and as an interested party in the future of the Machias River Watershed, the Maine Bureau of Public Lands has very grave misgivings about the Revised Draft Environmental Impact Statement submitted by the U.S. Air Force on July 30, 1974.

The government of the State of Maine is of course anxious, insofar as it is able, to support the legitimate defense needs of the nation. And we are aware of our special geographic advantages to the national defense efforts in this case.

We believe moreover that if the JSAF estimates of OTHB's economic impact are accurate, this infusion of dollars can have the beneficial impact predicted by the JSAF.

However, we also believe that Maine can both meet its national defense obligations and retain all of its productive land and natural amenities.

STRATEGIC CONSIDERATIONS

While the Bureau of Public Lands recognize that final decisions with respect to strategic matters are made elsewhere, we note that the strategic issue was raised by the Air Force itself in the Draft Environmental Impact Statement of July 30, 1974 (S.6(2)(1)).

We submit that the Air Force has not made a necessary and sufficient case for the proposed OTH-B radar system. In fact, we respectfully question

the necessity for "a significant increase in warning time of the approach of unidentified aircraft" by the means proposed.

First, we question the strategic necessity of more sophisticated aircraft approach warning systems when it appears that the nations from which we could reasonably anticipate an attack are not investing heavily in modernization of their intercontinental bomber capabilities.

Second, we question whether in the event that a determination of an intercontinental bomber threat is made, satellite warning systems could not provide an even greater increase in warning time than the proposed OTH-B detection system.

In the Revised Draft Environmental Statement, the USAF notes this project has been 8 years in the planning stage (35-1), during which time the size of the USSR intercontinental bomber force appears to have diminished, and the capabilities of US reconnaissance satellites have improved.

Consequently, the justifications of 1966 may well be irrelevant to the strategic situation of the late 1970s and early 1980s, and this system may well be obsolete before the first shovelful of dirt is turned.

But our reservations as to the advisability of this project are not limited to US security considerations, they also relate to specific environmental issues raised but not resolved by USAF Environmental Impact Statements.

#### ENVIRONMENTAL CONSIDERATIONS

We acknowledge that it is impossible to install the proposed mobile and permanent OTH-B receiving site apparatus without some environmental effects. At the same time we fully expect the Air Force to take every reasonable precaution to minimize environmental degradation.

Specifically, the Bureau has several questions about the appropriateness of the proposed Twp. 19, M.D. receiver site location. These questions relate to the installation's impact on the Machias River watershed, both in the context of total ecosystem composition and in the context of its important "near-natural" recreational and Atlantic salmon fishery resource. They will remain pertinent even should the proposed receiver site be changed to an alternate location within the immediate area as apparently may become the case. Questions will be addressed in their order of occurrence upon a careful reading of the Revised Draft Environmental Statement.

J-11 Page 3-2 (a.2) "Water will be obtained from on-site wells." J-11

Question: What effect will depletion of the water resource at anticipated levels have on a) the water table? b) the Machias River?

Page 3-5 (c.2) Impact on Barrens

J-12 The figure of 200,000 acres of existing blueberry barren land in J-12 Washington Co. appears to be incorrect. We have been informed that the total is closer to 40,000 acres.

J-13 Question: How will effects of constructing antennae "be comparable to the J-13 disturbance from the normal harvesting of blueberries?"

J-14 Question: What effect will herbicides and insecticides (if used) have on J-14 adjacent lands and bodies of water, most especially the Machias River? On fish populations and other animal life?

Question: If herbicidal and insecticidal control of the site is anticipated, what specific types and methods will be used?

Page 3-11 (11) Approximately \$400,000 or 75% of personnel salaries will be spent in the local area (receiver site data).

J-15 Question: If as is indicated in 3-12 (e.2) only 20 persons will be employed, J-15  
will personnel salaries average the indicated \$26,500.00/yr.

Page 3-12 (e.2) Social Impact

Question: Will local communities which must absorb the anticipated AF  
personnal population of 20 families, be compensated for additional  
service provision (police, fire, roads, etc., etc., etc.,  
etc.)?

Page 3-12 (f) Commercial Power Service

J-15 Question: Through what land will the anticipated five miles of power line J-16  
(to serve the OTH-8 receiver site) pass?

Question: What effect will such a line or lines have on that land (environmentally, socially, aesthetically?)

Page 3-14 (g.2) Access Roads

J-17 Question: Gives the prospect of a future increase in the number of Atlantic J-17  
Salmon fishermen and campers attracted to the area, will the USAF  
cooperate with the Bureau of Public Lands, other appropriate State  
agencies and properly designated local groups in controlling  
access to the river if necessary?

NOTE: Traffic problems, overcrowding, undesirable camping,  
vandalism, littering, etc., may well result unless  
access is controlled, and if necessary discouraged.

Page 3-15 (f) "There are no parks or recreational areas on or adjacent to  
the selected radar locations.

Question: What criteria were used in making this determination?

Question: What effect would disproof of this contention have on the USAF  
proposal?

Page 4-2 (4 and 5) Conformance to Federal, State, and Municipal standards for air quality, noise suppression, sewage and drainage effluent treatment.

J-18 Question: What standards will in fact be met?

J-18

Question: How will standards be met?

Page 4-2 (6a) "The cleared areas will be replanted, graded and stabilized as required to prevent erosion."

J-19 Question: At what height above the ground will the receiver apparatus be constructed?

J-19

J-20 Question: What meaning has the term "as required"?

J-20

Question: What effect will sedimentation from OTH-B receiver site erosion have on Montegail Brook? the Machias River?

Unless and until the above questions are answered to the satisfaction of the Bureau of Public Lands, we cannot in good faith regard the USAF-OTH-B receiver site proposal as acceptable.

#### ALTERNATIVE SITES

Assuming that adequate safeguards and strategic justification for this project can be demonstrated, the Bureau of Public Lands would propose that alternative sites with alternative characteristics receive immediate consideration by the USAF.

Recent conversation between various local citizens in the watershed area and the USAF indicate that the exact location of the proposed receiver site may in fact be adjusted to reflect the concerns of affected landowners. This adjustment may entail relocation closer to the Machias River than initially indicated, and impact an area between Penman Rips and the Six Mile Street entrance on Mopang Stream. It would additionally impact the Black Brook Pond area.

There, however, are other areas in Washington County which combine excessively sandy soil, tree stands of marginal social value, and limited water availability. In our view, such an area would be a preferable receiver site, inasmuch as the present employment opportunities would be foregoing and the intrusion of the project on the area's ecosystems would be diminished considerably.

We would, therefore, urge you to re-examine the site selection criteria and see if another site in eastern Maryland might not better fulfill the needs in this area in the best interest of the local citizens and natural resources.

The Bureau of Public Lands is ready to assist in that effort.

FURTHER CONSIDERATIONS

It should be pointed out that a major portion of the Moscow-Carrabunk site and all of the Montegail Pond site is in the jurisdiction of the Maine Land Use Regulation Commission. The Land Use Regulation Commission has the responsibility for seeing that land in the unorganized areas of Maine is put to the most sound use and to prevent inappropriate land uses. As such, the Land Use Regulation Commission has the responsibility for planning, zoning, and development review in these areas. This means that if any decision is to be made by the State on this project, it will be made by this agency in conjunction with the Board of Environmental Protection.

The legislature of this State has declared that since 1969 any new development in the unorganized areas of Maine should be guided by the criteria and standards by this Commission. The Commission is concerned that in this case it may not be able to carry out the mandate of its statute. This would put the Commission into a position of forced abdication of its responsibilities and non-compliance with its own statute.

It should be made clear that at this time the Land Use Regulation Commission is not taking any particular stand on the acceptability of this project. It is our intention to see that the environmental laws of this State are recognized and complied with.

STATE OF MAINE  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
SECTION OF ENVIRONMENTAL REVIEW  
AUGUST 1978  
TEL. 207-725-5762

J-21 PLEASE TYPE OR PRINT

Name of Agency: \_\_\_\_\_  
Address: \_\_\_\_\_  
Tel. No. \_\_\_\_\_  
Location of Activity: \_\_\_\_\_  
Name of Project: \_\_\_\_\_  
Municipality or Township: \_\_\_\_\_  
County: \_\_\_\_\_  
Type of Project: \_\_\_\_\_  
\_\_\_\_\_

(FOR OFFICE USE ONLY)

Agency No. \_\_\_\_\_  
Date Agency Completed and Submitted: \_\_\_\_\_  
Date of Hearing, if any: \_\_\_\_\_  
Disposition:  
     Approval  
     Denial  
Date of Final Action: \_\_\_\_\_  
Other: \_\_\_\_\_  
\_\_\_\_\_

1. Fill out the form completely.

2. Obtain the appropriate U.S.G.S. topographic map (available at sporting goods stores, hardware, lumber yards, stationery stores, etc.), indicate the location of your project on it, and attach it to the form.

3. Publish the public NOTICE once in a newspaper circulated in the area where the project is located. (A form is provided for this and is attached to this form.).

4. Send a copy of the NOTICE form attached to this form to the owners of property abutting the land upon which the project is located. Their names and addresses can be obtained from town tax maps or local public officials.

5. Send a copy of the NOTICE form attached to this form to the municipal officers and the Municipal Planning Board.

6. Send a duplicate of the form to the Municipal Office, or if the project is located in an unorganized town send the duplicate to the office of the County Commissioners.

7. No fee is required.

8. Attach a medium intensity soil survey map of the area affected (available from the Soil Conservation Service office in your area which is listed in the yellow pages of the telephone directory under United States Government; Soil Conservation Service) or the results of an on site soils investigation, including a soils map superimposed on the site plan.

9. Attach a statement as to how you plan to finance the project. If the costs to the agency involve more than normal legal fees and surveying (such as might be involved in a subdivision with no interior roads, that is, all lots have frontage on a public road) then a statement from a bank or other reliable source is required.

10. Send the form along with (1) topographic map, (2) newspaper clipping of the public notice, and (3) nine copies of the site plan to the Department of Environmental Protection, Bureau of Land Quality Control, State House, Augusta, Maine 04330. If any item is missing the application will be returned.

NOTE

If the soils map (referred to in item #8 above) is larger than 8 1/2" x 11" and is not superimposed on the site plan be sure to include 9 copies of it also.

Be sure to send your form in well in advance of the date on which you plan to start the project. Processing may require 30 days.

## SUGGESTIONS & INFORMATION WHICH MIGHT BE HELPFUL

The law specifies that the Board must consider the following areas when acting on the Location information form:

1. The financial capacity of the applicant to carry out the project proposed in an acceptable manner as listed in the form.
2. Traffic movement to and within the proposed development has been adequately provided for.
3. The impact of the project on all aspects of the environment, including the land, air, water, population, the quality of life in the surrounding area.
4. The suitability of the soils on the proposed site to accept the type and intensity of development proposed.

A determination as to whether the public's general health, welfare, and safety has been adequately protected.

It should be noted that the law places on the developer the burden of proving to the satisfaction of the Board that all five of these criteria have been met. This is accomplished by the developer submitting the form and requested data to substantiate that the criteria have been satisfied.

Based on past experience, the most frequently occurring factors which have caused denial or conditional approvals of projects are:

1. Soil types have not been suitable for septic sewage disposal and provisions to correct this have not been set forth in the form.
2. No provisions were made for long term maintenance and upkeep of the area.
3. There were indications that soil erosion and sedimentation of waterways would result and no provisions for controlling this were set forth.
4. Landscaping and parking lot design has not been sufficient to insure that the project will not adversely affect nearby properties and insure orderly traffic movement.

The following general planning procedures may be useful as a guide in preparing your Site Location information form.

Visit the local office of the Soil Conservation Service and obtain the soils maps and supporting information that relates to the proposed site. Discuss your proposal and any limitations which soil conditions might impose and plan to overcome these limitations.

Prepare a general map or site plan of the property in question, outlining the general type and location of manmade facilities proposed and any major limitations imposed by the site that will have to be corrected before sale or construction.

Contact the local and regional planning or governing officials to determine the nature and extent of any regulations or other plans which might affect the proposed development.

(Over)

4. Visit the State agencies which might be affected or which might have knowledge and expertise useful to the planning process. Outline the concept to them and note any suggestions or problems.
5. The Board does not require that the application or plan be prepared by professionals. However, past experience indicates that professional advice is helpful and in any instances this advice can be used to overcome site limitations through proper design.

#### PROCESSING PROCEDURE

When your agency is received it will be reviewed to determine if the information is complete. If it is complete, the information will be summarized on paper and sent along with one copy of your site plan to each of the appropriate review agencies for their comments.

Your agency and the comments from the review agencies will then be evaluated and presented to the Board of Environmental Protection at a regular meeting. The Board will vote to approve, approve with conditions or deny the agency.

The Board's decision is based on whether or not the evidence you provide proves that your project will meet the criteria of that particular law.

The Board may decide to hold a public hearing on the agency. Hearings are usually scheduled only in cases where additional information can best be brought forth in this way or when a great deal of public interest is present.

You should receive a notice of the Board's action within 45 days from the date that you submit the completed agency, usually less.

If you have any particular problem with the agency, please call us at 289-3762 and we will be pleased to offer our advice and help based on our past experience with agency.

In the event that the approval applies to a project where real property will be transferred, no action by the agency or any successor, assignee or transferee, shall be taken until the approval or an attested copy has been recorded in the Registry of Deeds for the County in which the property is located, and a certified copy of the recorded approval is provided to this Department.

1. State below the project agency name, the address and telephone number of his principal place of business, and the name of the principal officer or partner if the agency is a company.

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2. If the agency is not the landowner, state below the landowner's name and the address and telephone number of his principal place of business.

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3. State below the estimated total cost of the project, as proposed in this form and itemize major categories, including estimated costs of activities to be devoted to minimizing or preventing adverse effects on the surrounding environment during construction and/or operation of this project.

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4. State whether the financial capability to carry out the construction and operation of the proposed project is assured beyond a reasonable doubt. Exhibit statement, letter from bank or financial institution or other data as proof of financial capability.

CHECK ONE: YES        NO       

State below the objectives of the project as proposed, including, as appropriate, number of lots, size of processing plant, floor space of building structures, parking lots, etc.

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6. If the project is an expansion of an existing project or facilities or is part of a larger project or plan, submit a brief summary of all pertinent aspects of the existing facilities and/or the larger project.

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7. Submit 9 copies of site plans drawn to scale and delineating the following information:

- a. Location, function, and ground area of all structures and facilities.
- b. Location and ground area or length of all roads and parking lots.
- c. The nature and extent of any site work such as filling, grading, drainage, dredging, etc.
- d. The nature and extent of any proposed construction or facilities related to the project.

8. State approximate date for commencement of project. \_\_\_\_\_

9. State approximate date for completion of project. \_\_\_\_\_

10. State below the project's specific address within the community or minor civil division.

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11. State below the route number of the nearest public highway, or the name of the nearest street to be used as the major access to the project.

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12. Submit the appropriate U.S.G.S. topographic map which includes the project site. Indicate on the map:

- a. Location of boundaries of the project as proposed.
- b. Location of boundaries of all property involved in a larger project or plan, if any.

13. Number of acres owned; leased, or rented \_\_\_\_\_.

14. Number of acres under option or similar arrangement \_\_\_\_\_.

15. Number of acres included in this project \_\_\_\_\_.

16. State where the deed or option is recorded, owner of record, and the book and page numbers.

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17. State how, if any, any due restrictions or conditions binding on the property owner and any unrecorded deeds or agreements with other parties, affect the project or use of the land covered by the project.

18. State whether the municipality in which the proposed site is located has zoning or other development ordinances.

CHECK ONE: YES  NO

19. If the proposed site abuts a body of water, state below the name of the body, the length and nature of shoreline, and the classification of the water.

\_\_\_\_\_

20. State below the existing use of the proposed site.

\_\_\_\_\_

21. State below the estimated average and peak number of vehicles per day anticipated on or using the site.

TYPE	PART OF DAY	AVERAGE NO.	PEAK NO.
L.G. Auto	10 a.m. to 10 p.m.	100	160

22. State below the manner in which police and fire service requirements of the proposed project will be provided.

\_\_\_\_\_

23. Describe below any adverse effects that the proposed project may have on the surrounding environment during construction or operation, and steps to be taken to minimize them.

\_\_\_\_\_

\_\_\_\_\_

25. Indicate whether there are, or will be, any unstable soil conditions susceptible to erosion on the proposed site.

CHECK ONE: YES  NO

If YES, attach a brief description of the site's problems and any control measures planned to limit the problem.

26. Describe the general cover characteristics of the proposed site in percentage of the total areas involved, comparing the existing situation with that anticipated on completion of the project.

COVER	PERCENTAGE EXISTING	PERCENTAGE PROPOSED
Wooded		
Open		
Scrub		
Exposed Bedrock		
Wetland		
Open Water		

27. State below, in general terms the surface drainage characteristics of the proposed site, including on-site streams, swales, etc. and into what body of water they drain.

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28. State whether any portion of the site is subject to flooding or ponding at any time of the year.

CHECK ONE: YES  NO

If YES, state below the nature and extent of such flooding and/or ponding.

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29. Submit a map of the project site delineating the general soil types based on a medium intensity standard soil survey such as provided by the Soil Conservation Service. Attach supporting data relating to soil properties, suitability for the development proposed, and steps to be taken to overcome any limitations. Include data on bedrock geology if appropriate for project proposed.

30. Attach a copy of any deed covenants or restrictions to be imposed on prospective purchases and/or occupants by the agency.

State how water is to be supplied to the site.

CHECK ONE:  Individual wells.  
 Central well(s) with distribution lines.  
 Off-site utility company or public agency.  
 Other.

32. If water is to be supplied by a method other than individual wells, state the name and address of the person or agency responsible for the quality and maintenance of such supply and the installation schedule. Provide a letter assuring that proper service is, or will be, available.

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33. If the water supply is to come from a well(s) attach a brief description of any data establishing that a sufficient quantity and quality of water available for the estimated needs.

34. State how sewage is to be disposed of.

CHECK ONE:  Individual septic tanks.

Individual mechanical system.

Central on-site disposal with collection lines.

Off-site utility company or public agency.

Other.

35. If sewage disposal is to be provided by a method other than individual septic tanks, state the name and address of the person or agency responsible for the maintenance of such system and the installation schedule. Provide a letter assuring that proper service is, or will be, available.

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36. If the proposed project will discharge any waste, refuse, or effluent from any commercial or industrial processing, or any sewage effluent into any stream, river, pond, lake, or body of water, including tidal waters, provide the following information.

BODY OF WATER

TYPE OF EFFLUENT

QUANTITY (Gal/Day)

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State below the volume and nature of all solid waste products (rubbish, garbage, etc.) to result from the proposed project and indicate method of collection and location of ultimate disposal.

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39. State below the present condition of the public access roads to the proposed project, including the type, condition, and width of road surface and number of travel lanes.

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40. State below the nature of the circulation and parking system within the proposed project, including the type and width of road surface, length of roads, number of lanes, parking areas and capacity, the dedicated width if right-of-way, and the estimated completion schedule.

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41. State below whether the roads within the proposed site have been, or will be, dedicated to a public agency responsible for maintenance.

CHECK ONE: YES  NO

If YES, submit letter from the public agency stating the terms and conditions of its acceptance of such roads.

42. If the roads within the proposed development will not be accepted by a public agency, state below the method by which they will be maintained and the name of the person or firm responsible for such maintenance.

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43. State below whether the proposed development will require the installation of advertising signs, display lighting, or any similar device which might have an impact on the surrounding environment.

CHECK ONE: YES  NO

If YES, submit a brief description of such signs and/or lighting, and any measures which will be taken to reduce their impact on the surrounding environment.

44. Attach to this application 9 copies of the site plan.



STATE OF MAINE  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
AUGUSTA, MAINE 04330

Attached please find the necessary waste discharge information forms. Please complete each form and forward one to the Office of the Department of Environmental Protection, one to the Municipal Office of the City or Town in which the discharge is to occur and retain one for your records.

Thank You.

STATE OF MAINE  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
AUGUSTA, MAINE 04330

1972 709  
Application Number

## APPLICATION FOR INDUSTRIAL WASTE WATER DISCHARGE LICENSE

Applications not properly prepared may be rejected or may be returned for correction. Please use typewriter or ink.

## SECTION I

1a. Name \_\_\_\_\_

1b. Mailing Address \_\_\_\_\_ Street & Number \_\_\_\_\_ Telephone \_\_\_\_\_

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City	County	State	Zip Code
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1c. Location of proposed discharge site \_\_\_\_\_ Street & Number \_\_\_\_\_ Telephone \_\_\_\_\_

---

City	County	State	Zip Code
------	--------	-------	----------

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A map and/or diagram illustrating the geographic site and locus of discharge must accompany this application.

1d. How long has the applicant been located at this site?

From \_\_\_\_\_ To \_\_\_\_\_ Total Number of Years \_\_\_\_\_  
Month Year Month Year

1e. Does the applicant lease the building? \_\_\_\_\_ Does the applicant lease the land? \_\_\_\_\_ Will any terms of the lease have any effect on this application? \_\_\_\_\_ Please attach a copy of the lease to this application.

**APPLICANTS COPY**

17. If the property is not owned by the applicant, indicate the name and address of the owner. Name \_\_\_\_\_

Address \_\_\_\_\_ Street & Number \_\_\_\_\_ Telephone \_\_\_\_\_

City \_\_\_\_\_ County \_\_\_\_\_ State \_\_\_\_\_ Zip Code \_\_\_\_\_

18. If the applicant is a corporation, submit a Certificate of Good Standing from the Secretary of State of Maine Certificate submitted: Yes \_\_\_\_\_ No \_\_\_\_\_

SECTION II

EMPLOYEE INFORMATION

1. Total number of persons currently employed: \_\_\_\_\_

2. Maximum number of persons that will be employed: \_\_\_\_\_

3. Number of shifts: Hours (1) \_\_\_\_\_ (2) \_\_\_\_\_ (3) \_\_\_\_\_

26. Number of persons per shift: \_\_\_\_\_

27. Will there be any seasonal fluctuation in employment? \_\_\_\_\_

Please explain \_\_\_\_\_

Will persons other than employees normally make significant use of rest room

facilities? \_\_\_\_\_ yes; \_\_\_\_\_ no. Please explain \_\_\_\_\_

SECTION III

10. Sanitary waste water information.

Describe the means of disposing or treating employee sanitary waste waters.

APPLICATION FOR INDUSTRIAL WASTE WATER DISCHARGE LICENSE  
INDUSTRIAL USE ONLY

SECTION IV

Existing industrial waste water

4a. Are there existing Treatment facilities? Yes \_\_\_\_\_ No \_\_\_\_\_

4b. Describe: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

4c. Will these existing facilities (or a part thereof) be utilized in the proposed treatment system: Yes \_\_\_\_\_ No \_\_\_\_\_ If yes, describe (Please submit plans and specifications of those facilities to be utilized): \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

SECTION V

Proposed Treatment Information

5a. Describe fully the proposed treatment system: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

5b. Describe fully how the treatment plant operates: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

5c. What is the estimated cost for the proposed treatment facility? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

5d. What is the estimated cost annual operating cost for the proposed treatment facility? \_\_\_\_\_

APPLICATION FOR INDUSTRIAL WASTE WATER DISCHARGE LICENSE  
INDUSTRIAL USE 12 - Page 6

2000 Vol. 31 No. 1

### Process Water and Waste Water Information

APPLICATION FOR INDUSTRIAL WASTE WATER DISCHARGE LICENSE  
INDUSTRIAL USE ONLY Page 5  
SECTION III

PHYSICAL DESCRIPTION OF INTAKE WATER AND DISCHARGE

Parameter and Code	UNTREATED INTAKE WATER	TREATED INTAKE WATER	AVERAGE (DAILY)	MINIMUM (OPERATING YEAR)	MAXIMUM (OPERATING YEAR)	SAMPLE FREQUENCY	CONTINUOUS MONITORING
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Flow (Gallons per day) 011500							
pH 00400							
Temperature (Selected) 74.027							
Temperature (Summer) 74.027							

DISCHARGE CONTENTS

PARAMETER	PRESENT	PARAMETER	PRESENT
	ABSENT		ABSENT
Acetone 01103		Acetate 01057	
Antimony 01147		Selenium 01142	
Arsenic 01002		Silver 01077	
Boron 01012		Potassium 00037	
Chromium 01007		Sodium 01029	
Chlorine 01112		Titanium 01102	
Copper 01047		Tin 01102	
Iron 01075		Zinc 01002	
Lead 01041		Alkalinity 74051	
Chromium 01031		Oil and Grease 00410	
Copper 01042		Phenols 72750	
Iron 01075		Sulfate 74030	
Lead 01041		Chlorinated Hydrocarbons 74042	
Magnesium 01007		Fluorides 74053	
Manganese 01045		Total Nitroso Bacteria 74054	
Molybdenum 01003		Coliform Bacteria 74056	
Molybdenum 01002			

APPLICATION FOR INDUSTRIAL WASTE WATER DISCHARGE LICENSE  
INDUSTRIAL USE ONLY

SECTION VIII

Receiving Water Information

Fresh Surface Water

8a. Name of receiving waters \_\_\_\_\_

8b. Drainage area above point of discharge \_\_\_\_\_ square miles.

8c. 7 day - 10 year drought flow \_\_\_\_\_ c.i.s.

8d. Classification of receiving waters Class \_\_\_\_\_.

8e. What is the temperature of the receiving waters.  
Minimum \_\_\_\_\_ °C Maximum \_\_\_\_\_ °C.

Marine Waters

8f. Name of receiving waters \_\_\_\_\_

8g. What is the temperature of the receiving waters.  
Minimum \_\_\_\_\_ °C Maximum \_\_\_\_\_ °C.

8h. Describe physical characteristics of receiving water in vicinity of discharge.  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

8i. Marine resources in the area.

Shellfish: Commercial \_\_\_\_\_ Mess \_\_\_\_\_.

Lobstering yes \_\_\_\_\_ no. fishing grounds yes \_\_\_\_\_ no.

SECTION IX

CONSULTING ENGINEERING FIRM

Name \_\_\_\_\_

Business Address \_\_\_\_\_

Street & Number \_\_\_\_\_

Telephone \_\_\_\_\_

City \_\_\_\_\_

County \_\_\_\_\_

State \_\_\_\_\_

Zip Code \_\_\_\_\_

Project Engineer \_\_\_\_\_

Maine Registration Number \_\_\_\_\_

INDUSTRIAL USE ONLY

SECTION X

\_\_\_\_ hereby applies for a waste discharge license from the State of Maine Department of Environmental Protection under the provision of Title 38, Chapter 4, Section 414 of the Maine Revised Statutes of 1964, as amended, to discharge into a segment of \_\_\_\_\_ presently classified as \_\_\_\_\_ and located at \_\_\_\_\_

\_\_\_\_\_. Applicant agrees to submit all plans and specifications for the approval of the Department and such approval shall be obtained prior to the commencement of construction. Applicant further agrees that the staff of the Department may inspect the facility at various stages of construction to ascertain that said facility is conforming to the plans and specifications so approved.

The information contained in this application and all attached exhibits are, to the best of my knowledge, true. Upon the discovery of incorrect information, any waste discharge license which may have been granted on the basis of this application will be null and void.

All materials submitted to substantiate this application shall be considered part of the application and identified by the applicant as exhibits.

I, \_\_\_\_\_, have read, am familiar with, and understand the statutory requirements of Maine Revised Statutes Annotated, Title 38, Chapter 3, Protection and Improvement of Waters.

SIGNED \_\_\_\_\_ DATE \_\_\_\_\_

If the applicant has been assisted in preparing this application, the person assisting in the preparation shall sign below.

Name of Party Assisting \_\_\_\_\_

Address \_\_\_\_\_ Street & Number \_\_\_\_\_ Telephone \_\_\_\_\_

City \_\_\_\_\_ County \_\_\_\_\_ State \_\_\_\_\_ Zip Code \_\_\_\_\_

SIGNED \_\_\_\_\_ DATE \_\_\_\_\_

APPLICATION FOR SANITARY WASTE WATER DISCHARGE LICENSE  
INDUSTRIAL USE ONLY

SECTION XI

Name of Applicant

an applicant for a waste discharge license has provided \_\_\_\_\_  
Name

and Title of Municipal Official \_\_\_\_\_ Name of Municipality \_\_\_\_\_

a copy of an application for a waste discharge license dated \_\_\_\_\_  
Month Day Year

Month Day Year

Signature of Applicant

Name of Municipal Official \_\_\_\_\_ Title \_\_\_\_\_ Municipality \_\_\_\_\_

received a copy of \_\_\_\_\_  
Name of Applicant

application for a waste discharge license on \_\_\_\_\_  
Month Day Year

Date: \_\_\_\_\_  
Month Day Year \_\_\_\_\_  
Signature of Municipal Official

\_\_\_\_\_  
Title

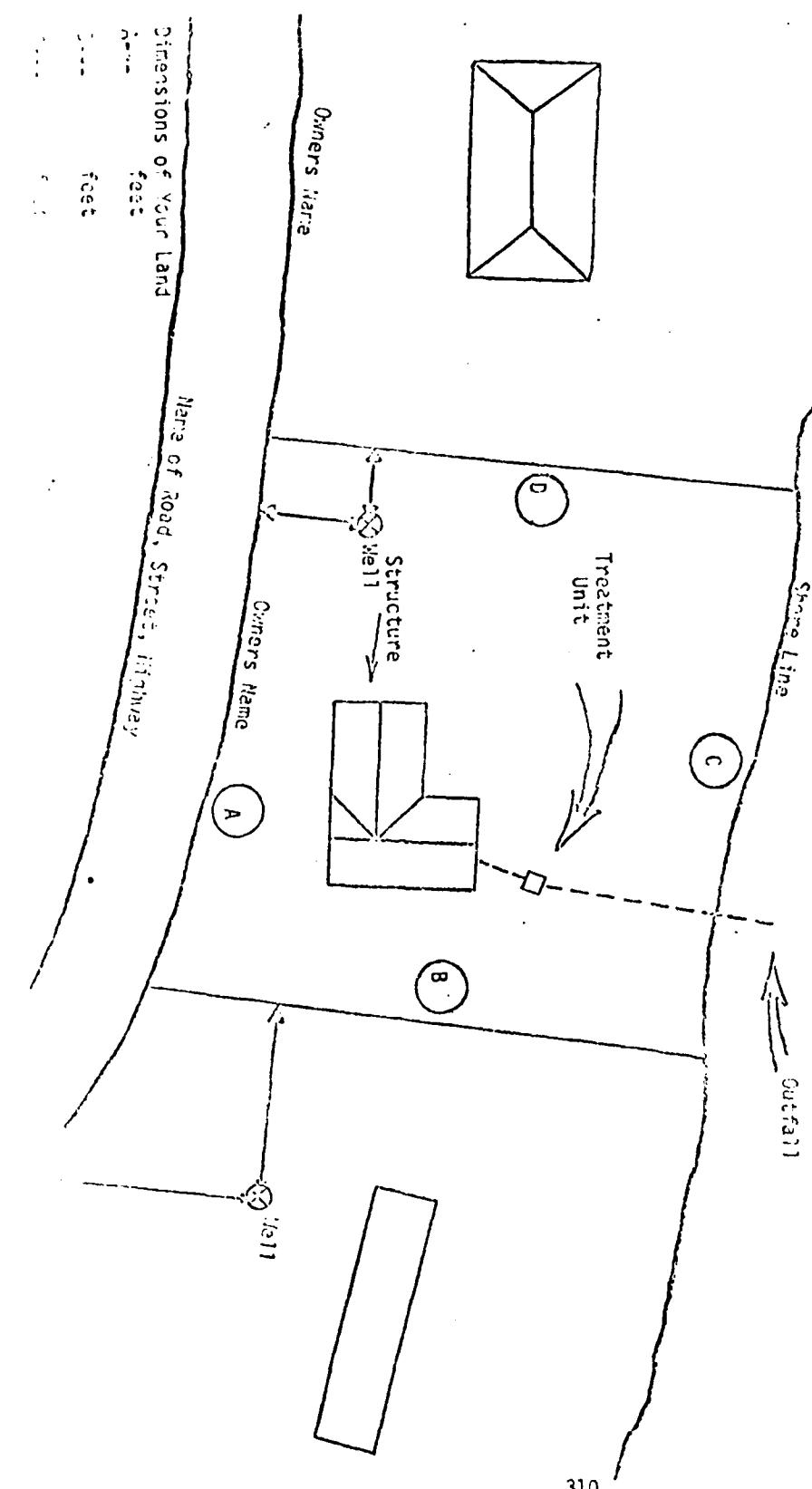
FOR OFFICE USE ONLY

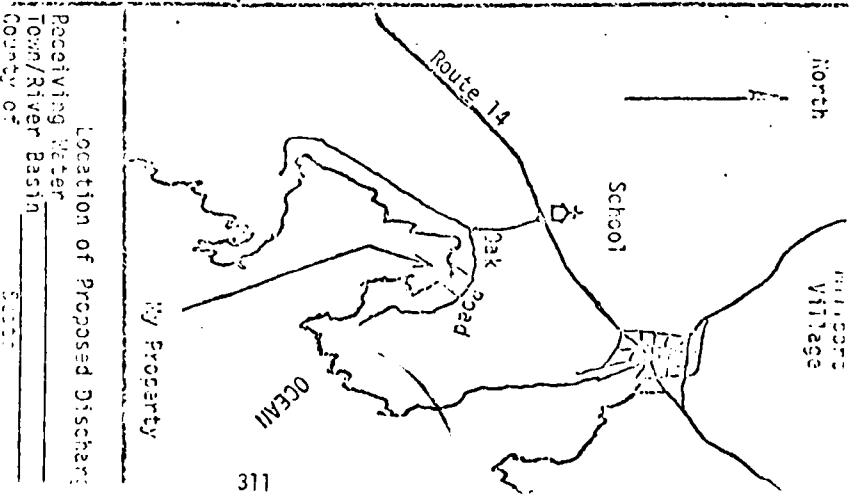
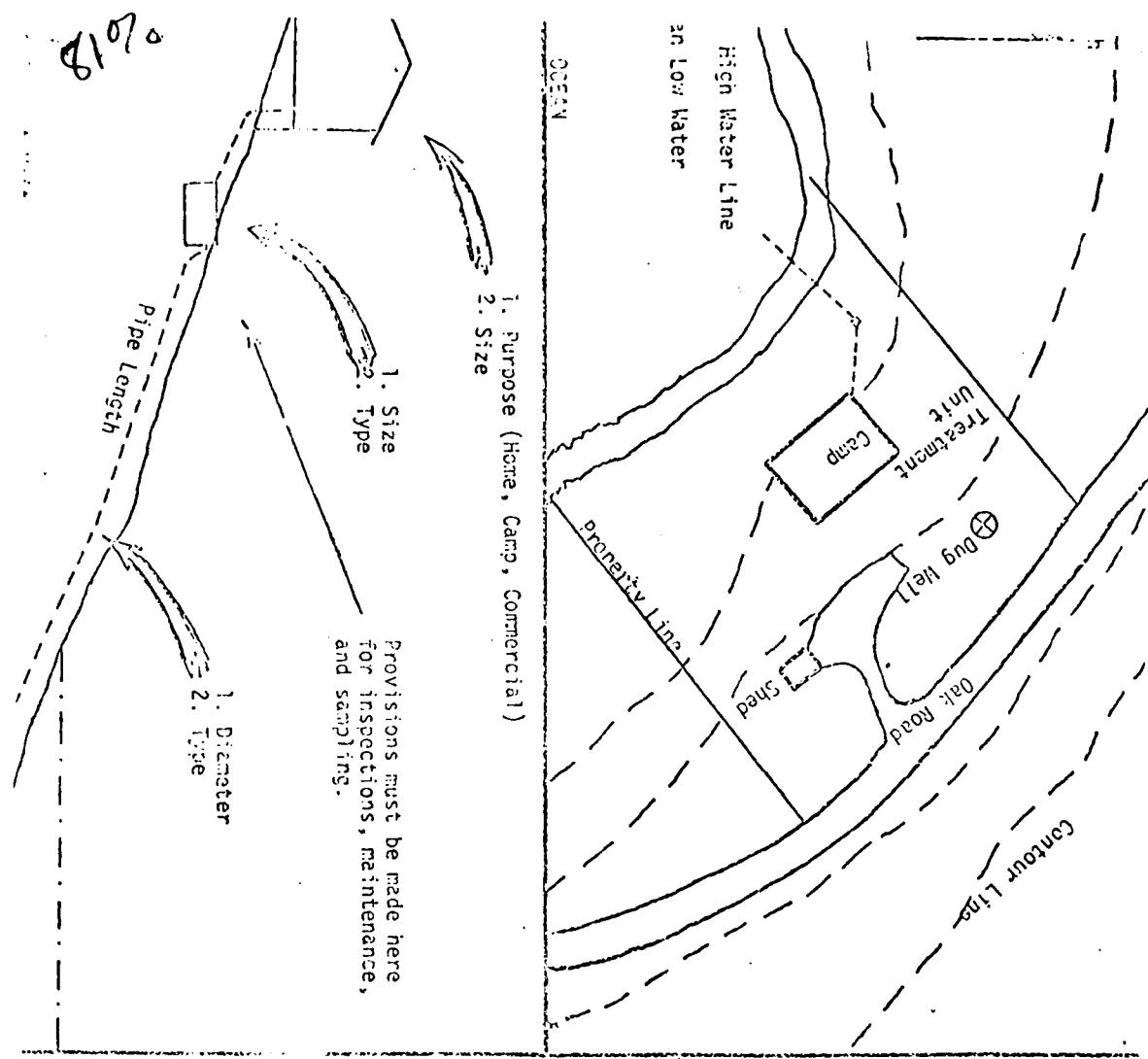
REVIEW OF APPLICATION FORM AND EXHIBITS

1. Date of Application \_\_\_\_\_ Date Received \_\_\_\_\_  
Month Day Year Month Day Year
2. Reviewing Officer \_\_\_\_\_ Title \_\_\_\_\_  
Signature
3. Application found to be in order: Yes \_\_\_\_\_ No \_\_\_\_\_ Date \_\_\_\_\_  
Month Day Year
4. Application returned to applicant for correction. Date \_\_\_\_\_  
Month Day Year
5. Preliminary Report Filed \_\_\_\_\_ Map Filed \_\_\_\_\_  
Yes No  
Diagram Filed \_\_\_\_\_  
Yes No

(See attached sheet for explanation of deficiencies.)

1. If you live in wells locate by dimensions. Yours and adjacent properties.
2. Describe physical characteristics of shoreline and uses. Yours and adjacent properties. (Example: Tidal flat - shellfishing; sandy shoreline - swimming area; etc.)





DEPARTMENT OF INLAND FISHERIES AND GAME

Environmental Impact Comments  
Draft Over The Horizon Radar System

have reviewed the Over the Horizon Radar Environmental Impact Statement and find it difficult to make meaningful comments until we have been furnished more detailed information. This information should be in the form of specific proposals and should contain the following:

J-22

Specific location of proposed power lines and access roads. This is of prime importance as critical wildlife habitats may be involved and their disturbance or destruction may be more detrimental to the fish and wildlife resources than the installations themselves.

J-23

We are concerned that there is no mention of methods which will be used against accidental oil spills associated with the use of 100,000 gallons of Diesel oil as well as emergency procedures to deal with leakage or rupture of the underground storage facilities. In order to protect the fish and wildlife resources, we recommend that these facilities be so situated so as to minimize the chance of the introduction of oil into the ground and/or surface waters of the areas.

J-24

We do not feel that adequate consideration has been given to the control of residual vegetation and the impact on wildlife populations and we do not know whether it is intended to exclude people from the area. While the presence of some 15 people may act as a deterrent to a wild animal population in the immediate area (a point open to considerable debate) there may be problems of control of wildlife trapped within the enclosure. It is conceivable that deer and other animals may increase in numbers within the enclosure. Some species of birds may, in fact, be attracted to the area if lagoons are used for waterfowl feeding. Animals or birds may be attracted to newly seeded areas.

J-25

We feel that enough attention has been given the aesthetic deterioration of the forest but it has been stated that there are no permanent residents within a 10 mile radius of the sites but we do not know the potential for noise and visual impact on the numerous recreational camps in the immediate vicinity, to say nothing of the numerous traps set by fishermen.

We feel that the waters (Montegail Pond, Mopang Stream, Maciliis River, Moose Pond, Moose River and Bay) which support trout and Atlantic salmon are in proximity to the proposed sites. We recommend that specific recommendations be forthcoming concerning protection of these land and waters.

More specific information is needed on the method of vegetative control - if physical or chemical - if chemical, what herbicides, rate and time of application, etc.

More detailed information is also needed concerning the anticipated impact on the vegetation, water and proposed procedures for discharge and erosion.

7. After the prototype indicates efficiency of the system, we assume there is a possibility that the operational site may need to be larger than the size listed in the impact statement. If this might occur, we need to know what modifications and of what magnitude would be required to support the facility.

8-29

8. We feel that studies of direct affects of the proposed RF beam on birds and animals are deficient. Exposure times are much too short to be meaningful. There is no specific comparison of proposed RF energy levels at different points in the beam and the levels tested in the laboratory.

8-30

9. We would like to see an artist's conception of the sites, with specific detail on the receiver systems. We would like to see a detailed map showing final vegetative types anticipated.

8-32

10. In addition of general comments, we are interested in what will happen to the property after the sites if and when they are abandoned, i.e., will the property remain in the original ownership, will it revert to the original owners or their heirs, or will it revert to the State of Maine. We also have some concern over the fact that one or more public lots appear to be located within the designated receiver area. Will these lots be taken and, if so, will the state be compensated in the form of money or by a portion of acreage? We would also like to point out that we feel that every precaution should be exercised to prevent the accidental detonation of explosives. From time to time, several personnel of this Department carry these devices in their vehicles and in their possession.

11. We would like to point out that this impact statement is deficient in the areas of fish and game and the environment. Additional information is needed before this project can be completed on the true affect of these installations upon the environment.

1. **State Department of Agriculture**

Division of Inspections

**Division of Inspections**

1. **State Department of Agriculture**  
Division of Inspections

September 13, 1974

In regard to the proposed prototype of the United States Air Force Over - the - Horizon Radar System, Continental United States, the Maine Department of Agriculture, as earlier conveyed in a letter to the State Planning Office, stated the Dept. could see no great adverse effect with the transmitter site in Somerset County, it further stated the Dept. felt a more thorough study should be conducted on the site selection of the receiver in Washington County since its proposed location was on prime blueberry land.

In the Somerset County area the Dept. still feels the location of the transmitter site there will be a very positive situation for the local economy.

In the Washington County barrens after seeing the Air Force proposed compromise site, however, since the one large piece of prime blueberry land, the Dept. now feels the Air Force has demonstrated in good faith, a real effort in reaching a unanimous for the people of the State of Maine, the residents of Washington County and the citizens of the United States, in the interest of national security and future agricultural productivity.

The Dept. feels we can not align ourselves entirely in this matter with the interest of any one person or persons, but with the entire County and taking into consideration that now approximately only 600 acres will be taken out of production and from that, roughly 1.5 million dollar payroll injected into the area, we can not align ourselves entirely with the new proposed site.

Clayton F. Davis, Director  
Division of Inspections

Division of Inspections  
State Department of Agriculture  
Augusta, Maine 04330

RESPONSE TO THE INFORMAL PUBLIC HEARINGS

CONUS OVER-THE-HORIZON RADAR SYSTEM  
AUGUSTA, MAINE

13 SEPTEMBER 1974

- J-1 Mr. Don Mairs, Page 13 of the Augusta transcript. Reference Section 4, Page 30, of the Final Environmental Statement (FES).
- J-2 Mr. Thomas Sturtevant, Page 18 of the Augusta transcript. The FES, paragraph 3.d.(2), Pages 21 thru 23, has been revised to include the effects of HF radiation on wildlife.
- J-3 Mr. Thomas Sturtevant, Page 19 of the Augusta transcript. The FES, paragraph 1.b.(2) Page 2, and Section 6, Page 44, has been revised to provide information on the anticipated life span of the radar system.
- J-4 Mr. Thomas Sturtevant, Page 20 of the Augusta transcript. The FES, Section 6, Page 44, contains information regarding the disposition of the land involved.
- J-5 Mr. Frederick Lyman, Page 21 of the Augusta transcript. Reference paragraph 5.c., Pages 41 thru 43, of the FES.
- J-6 Mr. Frederick Lyman, Page 23 of the Augusta transcript. Reference Section 4, Page 35, of the FES.
- J-7 Mr. Philip M. Savage, Page 25 of the Augusta transcript. Reference Section 4, Page 35, of the FES.
- J-8 Mr. Henry Warren, Page 29 of the Augusta transcript. Reference Section 4, Page 35, of the FES.
- J-9 Mr. Clayton Davis, Page 32 of the Augusta transcript. Reference paragraph 3.3., Pages 26 thru 30, of the FES.

AUGUSTA, MAINE INFORMAL PUBLIC HEARINGS

EXHIBITS 7 THRU 14

J-10 Exhibit 7

Reference Section 4, Page 35, of the FES.

J-11 Exhibit 8

The FES, paragraph 3.a., Pages 16 and 17, has been revised to include the current information concerning the requirements.

J-12 Exhibit 9

The FES, paragraph 3.c., Pages 19 and 20, has been revised in accordance with the information from the STATEMENT ON THE ANTICIPATED IMPACTS OF THE PROPOSED OVER-THE-HORIZON RADAR SYSTEM ON FIFTEEN HUNDRED ACRES OF BLUEBERRY FIELDS IN TOWNSHIP 19 MD, WASHINGTON COUNTY AND ON THE MAINE BLUEBERRY INDUSTRY. This statement was prepared by Amr A. Ismail, Assistant Professor of Horticulture and Extension Blueberry Specialist, University of Maine, Crono. (See Appendix I)

J-13 Exhibit 9

This statement has been removed from the FES, however, see Section 4, Pages 35 thru 38, for measures and controls which will be implemented to minimize the impact of any adverse environmental effects.

J-14 Exhibit 9

Reference Section 4, Page 38, of the FES.

J-15 Exhibit 9

The FES, paragraph 3.e., Pages 21 thru 31, has been revised to include additional information on the social and economic impact of the proposed system.

J-16 Exhibit 9

Reference paragraph 3.f., Pages 31 and 32, of the FES.

J-17 Exhibit 9

Reference paragraph 3.d.(1), Page 21, of the FES.

J-18 Exhibit 9

Reference Section 4, Pages 35 thru 38, of the FES.

J-19 Exhibit 9

Reference paragraph 3.d.(2), Page 9, of the FES.

J-11 Exhibit 10 and 11  
The FES, paragraphs 4.b.(1), Pages 37 and 38, has been revised, and the phrase "is required" has been deleted. Also, reference paragraphs 4.c., Pages 19 and 20, for erosion prevention measures.

J-12 Exhibit 12 (#1)  
Reference Section 4, Page 38, of the FES.

J-13 Exhibit 12 (#2)  
Reference paragraphs 3.f., e.g., Pages 31 thru 33, and Section 4, Page 38, of the FES.

J-14 Exhibit 12 (#3)  
Reference paragraph 3.b., Page 17, and Section 4, Page 37, of the FES.

J-15 Exhibit 12 (#4)  
Reference paragraph 3.d.(2), Pages 22 and 23, of the FES.

J-16 Exhibit 12 (#5)  
Reference paragraphs 3.b., Page 17, and 3.d.(1), Page 21, of the FES.

J-17 Exhibit 12 (#6)  
Reference Section 4, Page 38, of the FES.

J-18 Exhibit 12 (#7)  
Reference paragraph 3.d., Pages 19 and 20, and Section 4, Page 37, of the FES.

J-19 Exhibit 12 (#8)  
Reference paragraphs 1.b.(2), Page 2; 1.d., Pages 9 and 10; Section 4, Pages 16 thru 20; and Section 4, Pages 35 thru 38, of the FES.

J-20 Exhibit 12 (#9)  
Reference paragraphs 1.e., Pages 11 thru 15, and 3.d.(2), Pages 22 and 23, of the FES.

J-21 Exhibit 12  
Reference Section 6, Pages 44 and 44a, of the FES.

J-22 Exhibit 12  
Reference paragraph 3.d.(2), Pages 23 and 24, of the FES.

APPENDIX K

LETTER

TO

THE DIRECTOR OF THE ENVIRONMENTAL PROTECTION AGENCY

16 AUGUST 1974

Director: Environmental Protection Group  
HQ - USAF - AF-PREV  
WASHINGTON D.C. 20330

27 McKinley St  
Bangor, Me 04401  
August 16 1974

Honorable Sir:

RE: RADAR-MICROWAVE-COLOR TV BEAMS

With BANGOR'S INTERNATIONAL AIRPORT constant traffic with JETS and most of them use RADAR APPROACH; with AIR NATIONAL GUARD VOO-DOOS on every weekend Training overhead with RADAR; with BEAL COLLEGE Pilot Training School overhead much of time: this Bangor 25-mile square AIR AREA is plenty saturated with Microwaves of intense power !

Then area has over 6 Broadcasting facilities for COLOR TV & RADIO - besides the Police-Fire-Car/Taxi two-way Radios - to keep our AIR in constant Electronic Vibration status.

The MEN do not seem to be affected in Nervous System by ~~so~~ MUCH vibrating in existence - but for the FEMALE of Human Beings -there is a growing illness in sensitive Nervous Patterns - vastly different from the Male of the Species ! Mental & Defective BABIES could happen.

And- presently Bangor has a new SEWERAGE TREATMENT PLANT located under a small hill on the Penobscot River front - where the SUN HOT & HEAVY can work upon the SLUDGE in the opened-to-AIR VATS being processed for CLEAN WATER to go down River into Ocean; the SUN on SLUDGE full SEWERAGE & heavy with CHLORINE/SODIUM FLUORIDE content -emanates a POISON GAS so heavy that it hangs over the VAT because no strong WIND to disperse the Gas into upper atmosphere and AWAY from our Homes & LUNGS. Then when the many JETS every 24 hours this humid August - come in for Landing - they PUSH this Poison SEWER/Chlorine GAS up & into our Kenduskeag Stream neighborhood Housing and over downtown area also: a sickening atmosphere for elderly,children,ill & poor who cannot move away from this BAD AIR; as no Public Transportation!

\*\*\*

The enclosed PAGES are Non-Fiction of yesteryear(1948) but IT ALL COULD HAPPEN here in MAINE, this 1974, where our Land is full of TREES Bushes & Shrubbery that HOLD the low-lying Poison Fumes in culverts so no escape unless High WINDS can clear the AIR for us. These VATS should be out in country 15 miles away - OPEN country to blow away the Health Hazard now in dangerous density here in Bangor -or FANS be installed to BLOW/VENTILATE the whole unholy MESS! So MAINE does NOT NEED any more RADIATION/RADAR installations anywhere within our BEAUTIFUL but DEADLY AIR - State!

P.B.True.

Condensed from: "THE GREAT FOG" Story by H. F. HEARD in collection:  
"A TREASURY OF SCIENCE FICTION" 1948: ED by GROFF CONKLIN-Crown Pub.

...every Meteorologist knows that nature-balance is far vaster and more delicately poised than the ordinary human chooses to suspect. All life is balanced against its environment. Cyclones are brought on. Climate can change, a glacial age can begin as the result of atmospheric alterations far too small for the layman to notice. In our Atmosphere, that wonderful veil and web under which we are sheltered and in which we grow, we have a condition of extraordinary delicacy. The right - or rather the precisely wrong - catalytic agent can send the whole thing suddenly into quite another arrangement, one which can well be desperately awkward for man. It has taken an amazing balance of forces to allow human beings to live. THAT is the BALANCE that is being upset - so beware and look out!

There has been present these past few years, one of those small increases of atmospheric humidity; in itself, it would have made no difference in our lives - and indeed would have passed unnoticed. But at this meteorological moment Science has evolved a new kind of ever-growing Mold which can create Fats. But, now to our Human World it may prove as dangerous as a naked flame in a mine chamber filled with Firedamp. The fact is - Molds are spore-reproducing growths. Fungus is by far the strongest Form of Life. It breeds incessantly and will grow under conditions no other form of life will endure. When you play with Spore Life you may at any moment let loose something the sheer power of which makes dynamite look like a damp Squib.

It started with a speck of Mold on a single Tree in one orchard - that emitted a "dew" to surround it as a protective shield - and it kept spreading to the whole Tree - then the whole Orchard - and on across the Valley. Until the spread of fungus controlled such an area that it manufactured its own atmosphere full of humidity - a Weather creator - made its own Climate, and stretched out across acres at a time to cover vast reaches of country....

...the Thing seemed to reach a sort of saturation point. The Cloud around each Tree and Bush, put out feeler-like wisps and joined up with other spreading and swelling ground Clouds to form a vast FOG MIST - until it was like a solid sea of curd-white dense matter. A New Deluge? Came one morning and the Sun rose but the Fog did not. It lay undisturbed, level, dazzling white as a sheet of snow-covered ice, throwing back into Space every ray of Heat that fell on it. The air above it was crystal clear. Valleys were submerged under an Elevation that looked solid enough to walk on.... ALL the damp had been gathered below the Fog's surface, as distinct as Water..and conversely - the Cloud, mist and aqueous vapor in the air above the Fog was entirely drained out of it by this new dense atmosphere. It was as though the old Atmosphere had been Milk. The Mold acted as a kind of curd, and so, instead of Milk, here remained only this hard Curd and the clear Whey. The Sky above the Fog was not so much the deepest of blues - it was almost a livid Blak: the Sun in it was an intense bright White and most of the big Stars were visible throughout the day-time. So, outside the Fog it was desparately cold. Under that cold the Fog lay packed dense like frozen Snow.

continued ...

Beneath the surface of the Fog, conditions were strange. Passing into it was like going suddenly into night. All lights had to be kept on all day. As in a bad oldfashioned Fog, lights could not penetrate far. Rays of a Car's headlights formed a three-foot cone. It was possible to move about in the Fog - it a slow walk, groping along so as not to bump into things - you could not see 3 Ft ahead.

Nothing again was ever dry. Objects did not become saturated, but if absorbant, thoroughly Damp. Paper molder, wood rotted, iron rusted - but concrete, glass, pottery, all stone ware and ceramics remained unaffected. Cloth, served adequately, provided the Wearer could stand its never being dry. Everywhere and everything gradually became covered - until the Mountain ranges became strings of islands which emerged from a shining ocean that covered the whole Earth's surface, right up to the 6000 foot level.

Any further hope of Air-travel was extinguished - no Air currents. Sea travel was a slick sea under Fog that could not be penetrated more than a few yards. Neither Sun nor Stars ever again appeared over the Sea to give Man his bearings. There was never a breath of Wind to fill a sail - and the fumes of any steamship or motor boat would have hung about them and suffocated the crew.

Retreat upward was cut off. Above the 6000 ft. level the Air was too thin to breath and nothing would grow - the cold was intense, along with ultraviolet strong radiations from the Sun and outer Space that proved fatal to Mankind.

Man must accustom himself to a new kind of Fish existence - if he lived - nosing about on the floor of a pool which henceforth was to be his whole World. It might be a poor, confined way of living, but above that surface was Death. Only a few hardy Souls could live under the Fog-blanket.

Man had been clever enough to pull down the atmosphere-roof which had hung so loftily over his head, but he never learned again how to raise a cover as high, spacious and pleasant as the Sky's Blue dome. The dividing out of the Air was a final precipitation, a non-reversible change-down toward the final entrophy. Man might stay on, but only at the price of being for the rest of his term here on Earth confined under a thick film of precipitated Air. All his passion for Speed and Travel and seeing far and quick, had to go. He, who had just begun to Fly, now was confined not even to a brisk pace of walk but to a crawl. It was a Life on lowest gear. After a while men's health and their eyes became adapted to the perpetual dusk. They began to see that the gloom was not pitch-dark. They cultivated a sort of "nightsight" - that ancient part of the Eye so long neglected by Man. WAR was gone. Money was gone. Goods were of no use - no hoarding of rotten materials was worthwhile. No Electric works. Metal could not be smelted: the fumes suffocated people for miles around a Furnace. Iron and Steel rusted at once. Glass knives were used, and Man learned again how to flake Flints, Crystal and all the Silica Rocks, to make all manner of neat, sharp tools.

continued ...

Man's one primary need, FOOD, was supplied by another Freak of the Fog: an edible Fungus grew - a sort of Manha. It rotted if stored - but grew copiously everywhere. It replaced Grass; wherever Grass had grown the Fungus grew. Eaten raw, it was palatable and highly nutritious - more tasty and wholesome than when cooked. Man like the Fishes lived in a dim but fruitful Element.

The mean Temperature under the Fog stayed at 67 degrees, Fahrenheit. Man was never cold, and stayed in small settlements and devoted his time to Art and Mental Culture. Books did not last. All you needed and could use was at your door. There was nothing to see- your view was always limited to 4 feet. So Mental Culture thrived; Man carried Libraries in their Heads - and made Music with Stone Instruments, Jade and Marble Flutes, Gongs etc. Men could hear for miles; the thick Air which baffled the Eyes opened new avenues for the Ear, and Music and Poems and Songs passed the time.

When the shock of the change was evalued - it was found that Man was his own undoing: it was all right to give Animal Man the open World - but once they got Power without Vision, then either they had to be up or they would have shot and bombed everything off the Earth's surface! Why, they were even living in Tunnels when the Fog came! And out in the open, Men, powerful as never before, nevertheless died by millions; died the way Insects used to die in a frost, but died by one another's hands. The Airplane drove Men off the Fields. That was the thing that made the "MIND" decide we were not fit any longer to be at large.

We were going too fast and too high to see what we were actually doing. So then, "MIND" let Men fancy that all he had to do was to make Food apart from the Fields: THAT was the Edible Mold, and that led straight to the Atmospheric upset, the Meteorological Revolution. It really was a catalyst, making the well-mixed Air, which we had always taken for granted as the only possible atmosphere, divide into two layers as distinct as WATER and AIR. We are safer as we are. "MIND" knew that, and already we are better for our FOG CURE -though it had to be drastic.

"... one day, when we have learned enough, the Fog will lift; the high Ceiling will be given back to us. Once more "MIND" may say: "Try again"; the second Flood is over, go forth and replenish the Earth, and this time remember that you are all one". Meanwhile I'm thankful that we wre as we are....."

FINIS

APPENDIX L

LETTER

FROM

THE DEPARTMENT OF HEALTH, EDUCATION AND WELFARE

6 SEPTEMBER 1974



DEPARTMENT OF EDUCATION AND WELFARE  
REGISTRATION  
EDWARD H. KENNEDY FEDERAL BUILDING  
DEPARTMENT CENTER  
BOSTON, MASSACHUSETTS 02103  
THE FEDERAL BUILDING

William J. Ketch  
Special Assistant for  
Environmental Quality  
Office of the Assistant Secretary  
OEA, Department of Health and

Human Services 20330

Re: Dr. Ketch:

The Draft Environmental Impact Statement for "Over-the-Horizon (OTH) Radar System, Continental United States", Moscow/Carrington, Somerset County, Maine has been reviewed by this Regional Environmental Council.

The draft appears to be well written and covers all environmental factors of the project. Accordingly, we do not feel that this project will have an adverse impact upon the human environment affected.

Thank you for giving us the opportunity to comment on this draft statement.

Sincerely yours,

for *Warren M. M. Fugue*  
Robert Fulton  
Regional Director

APPENDIX M

LETTER

FROM

THE MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION

16 SEPTEMBER 1974

AND

RESPONSE

DEPARTMENT OF ENVIRONMENTAL PROTECTION  
AUGUSTA, MAINE 04330

September 16, 1974

Mr. John L. McLucas  
Secretary of the Air Force  
U. S. Department of Defense  
Washington, D. C.

Dear Mr. McLucas:

As you may know, many Maine citizens are gravely concerned about the proposed Over The Horizon radar system and its potential impact on our land and environment. Maine has established procedures through Legislative action over the years by which such development proposals are analyzed and licensed. Many of these fall within the duties of this Department and its Board of Environmental Protection.

At its September 11 meeting the Board expressed its continuing concern for the OTH-B project and its belief that this project should be subjected to the same scrutiny as any other development. Accordingly, the following resolution was adopted:

The Board of Environmental Protection hereby expresses its intention to require the application and enforcement of all Maine statutes under its jurisdiction which may apply to the proposed Over The Horizon Radar Project in Maine unless specific Federal statutes prohibit such application and enforcement.

I believe that our State Planning Office has provided your office with copies of such statutes. If we can be of assistance please let me know.

Sincerely,

*William F. Adams Jr.*  
William F. Adams Jr.  
Commissioner

WPA:HEW:ldp

: Congressional Delegation  
State Planning Office  
Department of Conservation

RESPONSE

TO

THE MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION

The Final Environmental Statement, Section 4, Pages 35 thru  
55, has been revised to indicate the measures and controls which  
will be implemented to minimize the impact of any adverse  
environmental effects.

APPENDIX

LETTER

FROM

THE UNITED STATES DEPARTMENT OF COMMERCE

17 SEPTEMBER 1974

AND

RESPONSE



UNITED STATES DEPARTMENT OF COMMERCE  
The Assistant Secretary for Science and Technology  
Washington, D.C. 20230

September 17, 1974

Billy E. Welch, Ph.D.  
Special Assistant for  
Environmental Quality  
Department of the Air Force  
Washington, D.C. 20330

Dear Dr. Welch:

The draft environmental impact statement for "Over-the-Horizon (OTH) Radar System, Continental United States," which accompanied your letter of July 31, 1974, has been received by the Department of Commerce for review and comment.

The statement has been reviewed and the following comments are offered for your consideration.

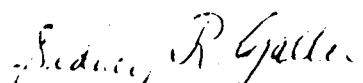
Page 3-11 and 3-12 (2) Social Impact

The magnitude of the economic and social impact is understated in the section by about one order of magnitude. Established regional economic theory indicates that approximately 8 to 10 people are added to a region for each new "basic" job that is created. The additional people consist of the family of the job-holder, the support jobs needed to service the new family (i.e., store clerks, policemen, school teachers, etc.), their families, the support people needed to service the first support people, their families, etc. Although this is probably not critical, the impact of 20 new basic jobs in a region of very small towns (e.g., 96, 586, and 1254 people in 3 towns near the transmitter site) can be expected to add a total of about 200 new population to this area, a 10% increase. While these effects are probably not detrimental to the local economy, they are appreciably larger than indicated in the subject document.



Thank you for giving us an opportunity to provide these comments, which we hope will be of assistance to you. We would appreciate receiving a copy of the final statement.

Sincerely,



Sidney R. Galler  
Deputy Assistant Secretary  
for Environmental Affairs

RESPONSE  
TO  
THE UNITED STATES DEPARTMENT OF COMMERCE

The Final Environmental Statement, paragraph 3.e., Pages 26 thru 31, reflects the information provided on social and economic impact.

APPENDIX C

COMMENTS, LETTERS AND MEMORANDA

FROM

THE MAINE STATE PLANNING OFFICE

REVIEW OF THE DRAFT ENVIRONMENTAL STATEMENT

MAINE STATE PLANNING OFFICE, September 18, 1974

STATEMENT FROM AUGUSTA INFORMAL PUBLIC HEARING, September 13, 1974

SOIL AND WATER CONSERVATION COMMISSION, July 20, 1974

DEPARTMENT OF ENVIRONMENTAL PROTECTION, August 23, 1974

PESTICIDES CONTROL BOARD, August 26, 1974

DEPARTMENT OF AGRICULTURE, August 29, 1974

DEPARTMENT OF TRANSPORTATION, September 4, 1974

DEPARTMENT OF INLAND FISHERIES AND GAME, September 13, 1974

DEPARTMENT OF AGRICULTURE

Division of Inspections, August 14, 1974

Division of Inspections, September 13, 1974

Amr A. Ismail, September 4, 1974

State of Maine  
Executive Department  
State Planning Office

104 State Street, Augusta, Maine 04330

KENNETH M. CURTIS  
GOV. OF MAINE

TEL. (207) 299-3261

PHILIP M. SAVAGE  
STATE PLANNING DIRECTOR

September 18, 1974

Mr. Billy E. Welch Ph.D  
Special Assistant for Environmental Quality  
Office of the Assistant Secretary  
SAF/ILE  
Department of the Air Force  
Washington, D.C. 20330

Dear Dr. Welch:

In line with the instructions to me in your letter of 30 July 1974, you will find attached comments of State Agencies on the "Revised Draft Environmental Statement, Over the Horizon (OTH) Radar System, Continental United States, July 1974."

Also attached is a statement on the anticipated effects of the Radar System on Blueberry fields in Township 19, Washington County and on the Maine Blueberry Industry by Mar A. Ismail of Extension Service, University of Maine at Orono.

Much additional and relevant information was produced at a series of 5 informational meetings held in Maine late in August and mid-September, which I understand will be considered by the Department of the Air Force, Headquarters Electronic Systems Division, Hanscom Air Force Base. Most relevant will be the official transcripts of three informal public hearings held by the Air Force on September 11, 12, and 13 in Maine. They were conducted by Major James L. Schmidt, Judge Advocate Office, 42nd Combat Support Group, Loring AFB, Maine 04750. I understand that these Transcripts will be available from Major Schmidt's office in about two weeks.

At the hearing in Augusta, State Agencies were informed by the Air Force that the State review of this proposal will now continue past the September 23, 1974 date in light of the additional time and information needed by State Agencies to evaluate this proposal.

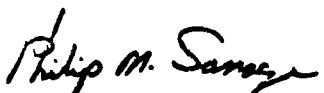
This additional information is detailed in the comments of our Department of Inland Fisheries and Game and other requests for information can be obtained from the transcript of the hearings held in Augusta Me. on September 13. Also, standard information forms of our two major Regulatory Agencies: The Maine Land Use Regulation Commission and the Board of Environmental Protection Agency have been submitted to Air Force Officials for completion, as a way of gathering additional information on this proposal.

0-1

Furthermore, we need detailed maps on the new parcel of land now being considered for acquisition by the Air Force, for the receiver installation in Washington County. A slide showing this change in land acquisition at this site was shown at the hearing held in Augusta on September 13, but, to the best of my knowledge, no map of this new acquisition has been submitted to a State Agency. State Agencies were unaware of this change until it was announced at the September 13 meeting.

Finally, on behalf of the Governor of Maine and all State Agencies, I want to thank the Staff from Hanscom Field for their fine and generous cooperation on this proposal.

Sincerely,



Philip M. Savage  
State Planning Director

RESPONSE OF STATE DEPARTMENTS

TO

DRAFT ENVIRONMENTAL STATEMENT "OVER-THE-HORIZON"  
(OTH) RADAR SYSTEM, CONTINENTAL UNITED STATES

STATEMENT SUBMITTED TO THE  
MAINE STATE PLANNING OFFICE 30 JULY, 1974  
by DEPARTMENT OF THE AIR FORCE

MAINE STATE PLANNING OFFICE  
EXECUTIVE DEPARTMENT

STATE OF MAINE

September, 1974

Statement in Proposed Over-the-Horizon Radar System Before Informal Public Hearing

September 13, 1974

Augusta, Maine

by Philip M. Savage, State Planning Director

At this point in our comprehensive review of the Over-the-Horizon Radar System, I may conclude that to follow only the requirements of the National Environmental Policy Act of 1969 will leave the State both short of time and information to adequately analyze the ramifications of this new and unique Air Force proposal.

In the last five weeks, we have received from State agencies and Regional Planning Commissions, and from private groups two consistent general comments: First, the information contained in the Draft Environmental Statement is incomplete and inadequate and, second, the State should go to the State and regional level to gather and analyze additional information on the present procedures of the Air Force under the National Environmental Policy Act in a prudent amount of time and time.

On August 14, 1974, from Billy E. Welch, Special Assistant for Environmental Quality, Office of the Under Secretary, Department of the Air Force - dated 30 July 1974, we are advised that comments must be received by the Air Force by September 23, 1974. Furthermore, Mr. Welch points out that if no comments are received by this date the Air Force will assume no comments. This is a false assumption. Moreover, it does put the State of Maine in a very narrow time straightjacket and really seems to end any continuing review and analysis of the proposal. We will get comments to the Air Force at this time but they will, in all probability, be incomplete.

Contrary to Mr. Welch's letter I strongly suggest that the Air Force should continue this dialogue with the State and its Regional Planning Commissions on this proposal and that we begin formal discussion on September 23rd. Furthermore, we need a continuing dialogue to discuss in detail some of the major aspects of this system which, I am convinced, only time will reveal.

I add, however, that there is no doubt in my mind that the Air Force has acted lawfully and legally under the provisions of the National Environmental Policy Act of 1969. Yet, I submit, there is another very important law and directive that pertains to this proposal and will provide the basis and authority for a continuing dialogue.

9-3

I refer to the Intergovernmental Cooperation Act of 1968 and the latest version of the implementing directive, Office of Management and Budget Circular A-95 of November 1971. Part II of this Circular dealing with direct Federal development requires that all Federal agencies involved in the direct development of Federal projects must consult on a continuing basis with State and local governments that might be effected by these projects. Most significantly, this includes all Federal projects such as Federal service work, military, construction, renovation, alteration in public buildings. If projects are not in conformity with State, county or local plans the Federal agency will be required to justify any deviation or departure from those plans. Section 11 of Part II dealing with coordination of direct Federal development projects lists these specific requirements:

"a. Federal agencies having responsibility for the planning and construction of Federal buildings and installations or other Federal public works or development or for the acquisition, use, and disposal of Federal land and real property will establish procedures

for:

(1) Consulting with Governors, State and areawide clearinghouses, and local elected officials at the earliest practicable stage in project or development planning on the relationship of any plan or project to the development plans and programs of the State, area, or locality in which the project is to be located.

(2) Assuring that any such Federal plan or project is consistent or compatible with State, areawide, and local development plans and programs identified in the course of such consultations. Exceptions will be made only where there is clear justification.

(3) Providing State, areawide, and local agencies which are authorized to develop and enforce environmental standards with adequate opportunity to review such Federal plans and projects pursuant to section 102 (2) (C) of the National Environmental Policy Act of 1969. Any comments of such agencies will accompany the environmental impact statement submitted by the Federal agency."

The limitations of time and information have not permitted the State of Maine to meet many very good objectives of the Intergovernmental Cooperation Act of 1968 and this directive. The Office of Management and Budget. Therefore, I strongly recommend to this hearing the Air Force that the dialogue on this proposed Radar System continue. We hope that the intent of Circular A-95 permits this and that this initial review should be only the beginning, not the end of State participation in the consideration of this proposal.

## STATE OF MAINE

Inter-Departmental Memorandum Date July 20, 1974

To Philip M. Savage, Director Dept. State Planning Office  
From Charles L. Boothby, Executive Director Dept. Soil & Water Conservation Commission  
Subject Draft Environmental Statement-Radar System

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0-3  
No mention of revegetating the graded area. Sediment basins are mentioned, should be considered as a temporary measure. If the sediment basins work they fill with sediment, will need periodic cleanout. Then what do you do with the material dredged from the basin?

Recommendations:

- a. Lime, fertilize, seed with a low-growing grass or legume or mixture,  
or
- b. Cover the area with 1' of coarse gravel which will minimize erosion.

Unless one of the above is accomplished, tall-growing shrubs and trees will intrude, necessitating increased maintenance by cutting or spraying.

How is it planned to control regrowth of sprouts and trees in the area that is only cleared?

Pg. 2-2 states that storm drainage will be returned to the natural watershed with no impact on the surrounding terrain. This statement is questioned. There is bound to be a greater volume of stormwater runoff from this site than from a wooded area. This increase in runoff should be evaluated in terms of downstream effects.

Pg. 3-13 How is erosion to be controlled along the constructed section of the access road to the transmitter site?

0-4

Pg. 3-14 Are there suitable land-fill areas on site for solid waste disposal?

0-5

Pg. 7-1 There will be a commitment of sand and gravel resources for road construction, etc. which is not mentioned.

CLB/jm

RECEIVED

AUG 4 1974

State Planning Office

STATE OF MAINE  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
ATLANTIC, MAINE 04330

MEMORANDUM

TO: Philip Savage, State Planning Director  
FROM: William R. Adams, Commissioner, Dept. of Environmental Protection  
SUBJECT: U. S. Air Force OTU-B Radar Project  
DATE: August 23, 1974

This memorandum will confirm earlier verbal statements of the interest and concern of this agency for the above noted project. At its August 7, 1974 meeting the Board expressed a desire to explore the matter fully and participate in any review process which occurs. The Board further requested of the Attorney General a formal opinion as to the applicability of relevant state laws in these areas. A copy of that memo is attached.

O-6  
In any event the A-95 process and NEPA process remain and we would find any definitive response very difficult without more information than is provided by the draft impact statement supplied to us. In order to expedite matters it would be most helpful if USAF personnel could complete copies of the attached forms relating to Site Location and waste discharge. We fully realize that these are not applications and they will not be construed as such, although the form itself is used for convenience sake.

We would be pleased to meet with you or USAF personnel at any mutually convenient time if required.

Enclosure.

STATE OF MAINE

Inter-Departmental Memorandum Date August 26, 1974

To: Philip M. Savage Dept: State Planning Office  
From: Donald F. Mairs Dept: Pesticides Control Board  
Subject: A-95 Comments on proposed QTH Radar (#74310008 & #74310009)

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O-7

Having read a copy of the EIS sent you dated 30 July, 1974, and having noted no mention of the use of herbicides to control vegetation at either transmitter or receiver sites, I contacted a Mr. James Mansfield, who apparently has had a good deal to do with preparation of the EIS. Mr. Mansfield informed me that herbicide use at the receiver site was a likely possibility, but that chemicals, dosages, etc., had not been considered at this point. I submit that, in order to make any intelligent comment on possible environmental impacts of pesticidal chemicals, we do need to know what herbicides will be used, at what rates, what acreage, and at which sites. As a representative of the Pesticides Control Board, I request that this information be furnished by Air Force project personnel.

DFM/lg  
cc/Lt. Col William A. Hobgood

RECEIVED

26/8/74

# Maine Department of Agriculture



Maynard C. Doolittle, Commissioner

## DIVISION OF INSPECTIONS

Clayton F. Davis, Director  
State Office Building, Augusta, Maine 04330  
Telephone 207/289-3841

August 29, 1974

Carl Kenyon  
State Planning Office  
Executive Department  
State House  
Augusta, Maine 04330

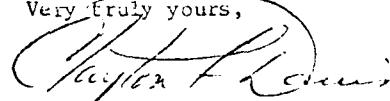
Dear Mr. Kenyon:

The policy the Maine Department of Agriculture has in regards to the proposed Air Force Over-The-Horizon Radar System has to be in the use of prime blueberry land for the receiver in Washington County. This is not to be construed that the Maine Department of Agriculture is against this proposed prototype installation, only that the Department feels that there has not been a complete study on site selection in the receiver area, considering there are many non productive barrens in close proximity to the selected site. The transmitter site, we feel, does not have the adverse effect on forest harvesting that the receiver site has on the blueberry harvest.

There is also a social impact that many of us do not realize. The people in Washington County are use to seasonal employment, as that has been a way of life, whether it is in the sardine canneries, blueberry barrens or peat bogs. The lives of these people are built around this traditional way of life and it would be hard to replace it with anything of equal value.

Enclosed is a copy of the memo to Commissioner Doolittle on which I have laid out our position, only after meeting with the people involved in this situation and flying over the entire area myself, have I arrived at this conclusion.

Very truly yours,



Clayton F. Davis, Director  
Division of Inspections

cc: [unclear]

## DIVISIONS

Administrative Services / Safety / Inspections / Markets / Plant Industry / Pesticides  
Markets / Safety / Inspections / Milk Commission / Meat Board / Dairy Council  
Markets / Safety / Inspections / Fish and Water / Land and Water Conservation Commission

## STATE OF MAINE

Inter-Departmental Memorandum Date September 4, 1974

To: Philip M. Savage, Director Dept: Executive  
State Planning Office  
From: Roger L. Mallar, Commissioner Dept: Transportation  
Subject: REVIEW OF "OVER-THE-HORIZON" RADAR DRAFT ENVIRONMENTAL STATEMENT

As you requested in your memo of August 6, 1974, we have reviewed the "Over-The-Horizon" Draft Environmental Statement in order to determine what impact the system might have on the activities of this Department.  
0-8

We are somewhat concerned with the dangers to general aviation in the areas (there are no scheduled airlines using airways in the areas). It is anticipated that an effective method will be devised to prevent aircraft from flying into the danger zones. Heights of antennae were not reported in the Statement.

0-9  
There does not appear to be any conflict with future highway improvements or proposed aeronautical facilities. We do not foresee any interference problems as it concerns our radio communications systems, due to geographical separation; however, it is requested that cooperation of the Air Force be available to develop any remedial measures that may be required to eliminate possible interference.

  
\_\_\_\_\_  
Roger L. Mallar,  
Commissioner

GHT/raj

RECEIVED

Sept. 4, 1974

State Planning Office

# STATE OF MAINE

Inter-Departmental Memorandum Date September 13, 1974

To Philip Savage, Director Philip Savage Dept. State Planning Office  
From Richard Marsh, Commissioner Richard Marsh Dept. Inland Fisheries and Game  
Subject Draft Environmental Statement Over the Horizon Radar System

In compliance with your memo, please find comments relating to Over the Horizon Radar Environmental Impact Statement for the Air Force attached.

KA/m  
Attachments

DEPARTMENT OF INLAND FISHERIES AND GAME

Environmental Impact Comments  
Draft State Over The Horizon Radar System

We have reviewed the Over the Horizon Radar Environmental Impact Statement and find it difficult to make meaningful comments until we have been furnished more detailed information. This information should be in the form of specific proposals and should contain the following:

0-10

1. Specific location of proposed power lines and access roads. This is of prime importance as critical wildlife habitats may be involved and their disturbance or destruction may be more detrimental to the fish and wildlife resources than the installations themselves.

0-11

2. We are concerned that there is no mention of methods which will be employed to guard against accidental oil spills associated with the storage of 170,000 gallons of diesel oil as well as emergency procedures to deal with leakage or rupture of the underground storage facilities. In order to protect the fish and wildlife resources, it is important that these facilities be so situated so as to minimize the chance of the introduction of oil into the ground and/or surface waters of the areas.

0-12

3. We do not feel that adequate consideration has been given to the control of residual or migrating wildlife populations and we do not know whether it is intended to exclude animals from the area. While the presence of some 15 people may act as a deterrent to wildlife population in the immediate area (a point open to considerable debate) there may be problems of control of wildlife trapped within the enclosure. It is conceivable that deer and other animals may increase in numbers within the enclosure. Some species of birds may, in fact, be attracted to the area if lagoons are used for waterfowl habitat. Animals or birds may be attracted to newly seeded areas.

0-13

We do not feel that enough attention has been given the aesthetic deterioration of the area. It has been stated that there are no permanent residents within a 10 mile radius of the sites but we do not know the potential for noise and visual pollution from the recreational camps in the immediate vicinity; to say nothing of the hunter or fisherman.

Several bodies of water (Montegail Pond, Mopang Stream, Machias River, Chase Pond, Pond and Stream) which support trout and Atlantic salmon are in proximity to the sites. We are concerned that specific recommendations be forthcoming concerning protection or access to these lands and waters.

0-14

4. We feel that more specific information is needed on the methods of vegetative control, i.e., mechanical or chemical - if chemical, what herbicides, rate and time of application, etc..

0-15

5. We feel that additional information is also needed concerning the anticipated volume of storm drainage water and proposed procedures for discharge and erosion control.

0-16

7. After the prototype indicates efficiency of the system, we assume there is a possibility that the operational site may need to be larger than the size listed in the impact statement. If this might occur, we need to know what modifications and of what magnitude would be required to support the facility.

0-17

8. We feel that studies of direct affects of the proposed RF beam on birds and animals are deficient. Exposure times are much too short to be meaningful. There is no specific comparison of proposed RF energy levels at different points in the beam and the levels tested in the laboratory.

0-18

9. We would like to see an artists conception of the sites, with specific detail on the antennae systems. We would like to see a detailed map showing final vertex types anticipated.

0-19 & 0-20

In the nature of general comments, we are interested in what will happen to the ownership of the sites if and when they are abandoned, i.e., will the property remain in government ownership, will it revert to the original owners or their heirs, or will it be given to the State of Maine. We also have some concern over the fact that one or more public lots appear to be located within the designated receiver area. Will these lots be taken and, if so, will the state be compensated in the form of money or by additional acreage? We would also like to point out that we feel that every precaution should be exercised to prevent the accidental detonation of explosives. From time to time, field personnel of this Department carry these devices in their vehicles and on their person.

In conclusion, we feel that this impact statement is deficient in the areas of fish and wildlife and natural resources. Additional information is needed before this Department can realistically appraise the true affect of these installations upon the fish and wildlife resources.

do 10/11  
10/18  
10/18

## STATE OF MAINE

Inter-Departmental Memorandum Date August 14, 1974

To: Mr. George Belloff  
From: Clayton L. Davis  
Subject: Report to Comm. Belloff

Dept. Agriculture  
Dept. Agriculture (Div. of Inspections)

I am sure that in Township 19 the proposed radar site will be located on approximately 100 acres of which has been in blueberry production for over one hundred years, the last 15 years under intensive care and production. The company who harvests this area, has for the last 50 years, attempted to harvest other townships in and around 19, however, this one particular piece of blueberry land is the largest continuous piece in the township. This land is also in a natural crater around Motegail pond. This pond serves as natural irrigation for the crop and there is also some public value to this lake for fishing and recreational use. This land is located approximately three miles from the old racing range, however, the air force objects to this site and other sites in surrounding townships because of the need of a Northeast slope. This piece of land is more accessible for the personnel involved in operating the installation than other locations, and I expect this might have some bearing on the decision.

Based on last years crop yield, 6% of the total yield came from this one section of land. I estimate from a monetary standpoint, to the local area, as follows, to plant the land for this one piece of land, costs in the amount of \$40,000.00 plus seed, etc. Labor to plant (inhabitants 210,000.00, picking expenses 120,000.00 dollars, the cost of the crop itself is approximately \$347,000.00 which include labor at the present price of \$1.00 per lb. In view of the above, from this preliminary study, I am inclined to foresee the economic impact that destruction of this site might have not only to the blueberry industry, but to the people as well. Non-related industries, that relate to the blueberry industry, also expresses great concern over the impact that it will have on the welfare of the county.

Employment 12% until Aug 9 Sept - then drops to  
11%

# Maine Department of Agriculture

Division of Inspections

## DIVISION OF INSPECTIONS

Clayton F. Davis, Director  
100 State House Station - Augusta, Maine 04330  
(207) 623-2131

September 14, 1974

In regard to the proposed prototype of the United States Air Force Over - the - Horizon Radar System, Continental United States, the Maine Department of Agriculture, as earlier conveyed in a letter to the State Planning Office, stated the Dept. could find no great adverse effect with the transmitter site in Somerset County, it further stated the Dept. felt a more thorough study should be conducted on the site selection for the receiver in Washington County since its proposed location was on prime blueberry land.

In the Somerset County area the Dept. still feels the location of the transmitter site there will be a very positive situation for the local economy.

In the Washington County barrens after seeing the Air Force proposed compromise site, its move away from the one large piece of prime blueberry land, the Dept. now feels the Air Force has demonstrated in good faith, a real effort in reaching a common ground for the people of the State of Maine, the residents of Washington County and the citizens of the United States, in the interest of national security and future agricultural productivity.

The Dept. feels we can not align ourselves entirely in this matter with the interest of any one person or persons, but with the entire County and taking into consideration that now approximately only 600 acres will be taken out of production in return for a roughly 2 million dollar payroll injected into the area, we can not at present find any fault with the new proposed site.

Clayton F. Davis, Director  
Division of Inspections

STATEMENT ON THE ANTICIPATED EFFECTS OF THE PROPOSED  
OVER-THE-HORIZON RADAR SYSTEM ON FIFTEEN HUNDRED  
ACRES OF BLUEBERRY FIELDS IN TOWNSHIP 19 MD,  
WASHINGTON COUNTY AND ON THE  
MAINE BLUEBERRY INDUSTRY

Prepared by  
Amr A. Ismail  
Assistant Professor of Horticulture  
and Extension Blueberry Specialist  
University of Maine, Orono

September 4, 1974

## FOREWORD

This statement is not intended to comment on the validity of the Over-The-Horizon Radar System proposed by the Air Force. It is intended to explore the anticipated effects of locating the receiver system on fifteen hundred acres of blueberry fields in Township 19 MD, Washington County and on the Maine Blueberry Industry.

## CONTENTS

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Anticipated Effects of Elimination of Fifteen Hundred	
Acres of Lowbush Blueberry Fields in Township 19	
MD for the Proposed Over-The-Horizon Radar System . .	4
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STATEMENT ON THE ANTICIPATED EFFECTS OF THE PROPOSED  
OVER-THE-HORIZON RADAR SYSTEM ON FIFTEEN HUNDRED  
ACRES OF BLUEBERRY FIELDS IN TOWNSHIP 19 MD,  
WASHINGTON COUNTY AND ON THE  
MAINE BLUEBERRY INDUSTRY

Prepared by  
Amr A. Ismail  
Assistant Professor of Horticulture  
and Extension Blueberry Specialist  
University of Maine, Orono

Introduction and Background Information.

Maine is the only State in the U. S. with a sizeable commercial production of Lowbush Blueberries (Vaccinium angustifolium Ait. and related species). Blueberries are commercially harvested from approximately 40,000 acres of native lowbush blueberry stands. Due to the cultural practices employed by Maine blueberry growers only 20,000 acres are harvested annually. Approximately 20,000 acres of the total lowbush blueberry fields are located in Washington County and about 10,000 of these acres are harvested annually. The largest concentrated areas of native lowbush blueberry fields are known as the "Blueberry Barrens" and are located in Township 19<sup>14, 15</sup> Columbia Falls area and the western barrens are located in Township 18, Deblois, Columbia, and Cherryfield.

Harvesting of Maine lowbush blueberries dates back to the native Indians and records are available of commercial harvesting of this fruit from Washington County Blueberry Barrens for more than one hundred years. Practically all of Maine's lowbush blueberries are processed in the State. Crop failure or reduction in the crop size adversely influences the economics of the processing centers, towns and labor force. Crop success also effects these integrated parts of the Maine Blueberry Industry.

Production of Maine Lowbush Blueberries, while it may appear as a seasonal operation, provides for certain job opportunities that last for several

months. A large blueberry enterprise would provide 8 months work opportunity in growing operations in the field. Packing and repacking of the berries provide year around employment to some factory workers.

The Maine Blueberry Industry has faced increasing competition from the highbush blueberry industry in Michigan, New Jersey and North Carolina. While the Maine lowbush blueberry is preferred and prized for processing purposes, the Maine Blueberry Industry has lost some ground in the national market because of fluctuation in production. A great production fluctuation does not provide for a stable market. Markets that are lost to highbush blueberries or other fruits such as processed cherries or apples are difficult to regain. A sizeable decrease in production potential would aggravate the problem of fluctuation in production and may have detrimental effects in the long run on the use of Maine lowbush blueberries.

With the continuing changes in the culture of lowbush blueberries, irrigation is becoming an increasingly important practice. Land with good native blueberry stands, easily accessible, without major obstacles (large rocks, trees, etc.) that can be easily and economically irrigated provides the backbone of the Maine Lowbush Blueberry Industry.

At present there are no economical commercial methods for establishing large acreages of lowbush blueberry fields. While research efforts in this area have made significant progress, many practical questions need to be answered before large scale commercial plantings of lowbush blueberry fields are a reality. When and if such fields are established, it will be several years before they are commercially productive.

Experience proved that native lowbush blueberry stands when neglected undergo changes in their floral composition. If cultural practices are discontinued, a steady decline in the blueberry productivity and increase in the

population and size of competing species ensues. For example, four or five years of neglect may be accompanied by sufficient changes in the growth characteristics in the field to render it uneconomical for commercial production of lowbush blueberries. It may take 4 to 6 years and a considerable expense to bring this field back to economical production of berries. Discontinuation of cultural practices for 20 years probably will result in changes in the flora that will make it uneconomical to reconvert the area to commercial production of native lowbush blueberries.

Because of the location of the Blueberry Barrens, climate, soil conditions, social traits and traditional skills of the inhabitants of the region, lowbush blueberries have proven to be the most adaptable and practical crop for this area. Lowbush blueberries have been commercially harvested and processed there for more than one hundred years. All present signs indicate that, if uninterrupted, the lowbush blueberries will continue to play a significant and important role in the economy of the people in Washington County and the State of Maine.

Management of lowbush blueberry fields has changed from casual gathering of wild berries by the native Indians to concentrated production efforts. Management practices presently employed include the use of herbicides for weed control, aerial application of fertilizers and pesticides, pruning, insect and disease control, the use of honey bees for pollination, and irrigation. Although the production of these berries on the barrens does not require a large permanent labor force, the harvesting crew is usually in excess of fifteen hundred people. In addition, the stringing of the fields, winnowing the berries, hauling the fruit to the packing factory, and the cleaning and packing operations provide work opportunities for local residents and migrant workers. None of these operations require highly skilled labor. However, they provide jobs for people of all ages who have very little, if any, other work opportunities.

Residents of Washington County face chronic unemployment problems. In 1973 the unemployment rate of the civil labor force in Washington County ranged between 13.0 and 14.6 percent in the months of January, February, March, April and May. The percentage dropped to 4.3 in August and 4.9 in September. In 1972 while the unemployment figures ranged between 10.2 and 15.6 percent of the civil labor force for the months of January to May, it dropped to 3.8 in August and September respectively. Similar patterns were evident in the 1970 and 1971 statistics.

It is practically impossible to identify the exact number of workers who are involved in one way or another with the blueberry industry in Washington County. However, there is no denial that the blueberry industry accounts for considerable seasonal employment opportunities, particularly during the months of July, August and September.

Anticipated Effects of Elimination of Fifteen Hundred Acres of Lowbush Blueberry Fields in Township 19 MD for the Proposed Over-The-Horizon Radar System.

Elimination of fifteen hundred acres of productive lowbush blueberry fields in Township 19 Md will have irreparable adverse effects on the Maine Blueberry industry, the income of many residents of Washington County, and a leading Maine food processing company. Revenues from local and State taxes will also be lost.

The land in question is considered to be well above average in production capacity and with excellent potential for continued improved productivity. Such land is not easy or practical to replace for the production of native lowbush berries. Altering the present use of these fields to a radar receiving site will deprive the region of a natural resource that has provided income capacity to the residents and visitors of Washington County.

The elimination of productive land that has produced more than one and a half million pounds of berries in one year and possesses the potential of doubling this amount would greatly hinder Maine's Blueberry Industry effort in stabilizing the annual production and maintaining its national markets. Fluctuations in Maine's Blueberry Crop combined by stiffening competition from blueberries produced in other regions undermines the stability of these markets. Loss of a sizeable area of productive land seriously aggravates this problem.

The production, harvesting, handling and processing of one and a half million pounds of blueberries accounts for more than half a million dollars of income largely to local people in Washington County. This sum of money is dispersed among unskilled laborers who have very little, if any, other employment opportunities. While an individual's share of this income may not be large, it represents a considerable income to people in an area with a high unemployment rate. An employment rate that reaches up to 15 percent in the winter and spring - compared to 4 or 5 percent during the blueberry harvesting and processing season.

- Alteration of the existing conditions in the "Blueberry Barrens" in Township 19 MD will greatly affect the aesthetics of the area. These Barrens provide unique ecological conditions and beauty. The natural aesthetics of the wide open ~~open~~ fields would be adversely affected by fencing and radar antennas extending thousands of feet and supported by hundreds of posts.

#### Conclusion

Location of the proposed Over-The-Horizon Radar receiver in the areas outlined by the Air Force in the revised Environmental Impact Statement released on July 31, 1974 will have considerable adverse effects on a unique natural resource. This, in turn, will affect the Maine Blueberry Industry as a whole, the income of many residents of Washington County, a major food processing company, the use of the area for recreation purposes, and the natural aesthetics of a unique area in the State.

APPENDIX O

- 0-1 Reference paragraph 1.c., Pages 7 and 8, and Appendix E, Map 2, Page 73 of the Final Environmental Statement (FES).
- 0-2 Reference Section 4, Page 35, of the FES.
- 0-3 Reference paragraph 3.c., Pages 19 and 20, and Section 4, Pages 37 and 38, of the FES.
- 0-4 Due to the limited number of duty personnel on the site on-site landfills are no longer being considered. Reference paragraph 3.h., Page 33, of the FES.
- 0-5 Reference Section 7, Page 45, of the FES.
- 0-6 Reference Section 4, Page 35, of the FES.
- 0-7 Reference Section 4, Page 38, of the FES.
- 0-8 Reference paragraphs 1.d., Page 9, 3.d.(2) and 3.d.(3), Pages 21 thru 26, of the FES.
- 0-9 Reference Section 4, Pages 35 thru 38, of the FES.
- 0-10 Reference paragraphs 3.f., 3.g., Pages 31 thru 33, and Section 4, Page 38, of the FES.
- 0-11 Reference paragraph 3.b., Page 17, and Section 4, Page 37 of the FES.
- 0-12 Reference paragraph 3.d.(2), Pages 22 and 23, of the FES.
- 0-13 Reference paragraphs 3.b., Page 17, and 3.d.(1), Page 21, of the FES.
- 0-14 Reference Section 4, Page 38, of the FES.
- 0-15 Reference paragraph 3.d., Pages 19 and 20, and Section 4, Page 37, of the FES.
- 0-16 Reference paragraphs 1.b.(2), Page 2; 1.d., Pages 9 and 10; Section 3, Pages 16 thru 20; and Section 4, Pages 35 thru 38, of the FES.
- 0-17 Reference paragraphs 1.e., Pages 11 thru 13, and 3.a.(2), Pages 22 and 23, of the FES.

Q-17 An artist's conception of the site is not available at this time and the information necessary for preparation of one will not be available until after a contract is awarded and the design is completed. No map showing final vegetation types is available at this time. Reference paragraphs 3.c., Pages 19 and 20, and 4.b.(4), Page 37, of the FES.

Q-18 Reference Section 6, Pages 44, and 44a, of the FES

Q-19 Reference paragraph 3.d.(2), Pages 23 and 24, of the FES.

APPENDIX P

LETTER

FROM

THE MAINE DEPARTMENT OF CONSERVATION

20 SEPTEMBER 1974

AND

RESPONSE



**Maine Department of Conservation**  
State Office Building Augusta, Maine 04330  
Donaldson Koons, Ph D. Commissioner

Land Use Regulation Commission  
(207) 289-2630  
James L. Heckell, Jr., Executive Director

September 20, 1974

Dr. Billy E. Welch  
Special Assistant for Environmental Quality  
Office of the Secretary of the Air Force  
Washington, D.C. 20330

Re: OTH-B, Moscow-Caratunk/T19 MD, Maine

Dear Sir:

At the recent hearing in Augusta concerning the above captioned project, the spokesman for the Dept. of Conservation pointed out that the Department of Conservation, specifically the Land Use Regulation Commission, has the responsibility of administering certain State environmental Statutes and Standards. While the Department does not intend to unduly impede any project that is necessary for the national welfare, it is necessary to assure the people of the State of Maine that their Standards have been recognized and followed.

I feel that any assessment of this project would be impossible without further information. For this reason, I have enclosed a modified permit application. I would appreciate it if this questionnaire could be complete and returned.

If I can be of any assistance, please do not hesitate to call.

Very truly yours,

*Michael E. Barrett*  
Michael E. Barrett  
Acting Supervisor  
Land Development Review

MEB/phd



Maine Land Use Regulation Commission  
State House, Augusta, Maine, 04330, (207) 289-2831

QUESTIONNAIRE CONCERNING PROPOSED DEVELOPMENT

Part I: Questions

1. Developer's name: \_\_\_\_\_ Phone No. \_\_\_\_\_

Address: \_\_\_\_\_

2. Explain the nature and purpose of the development in as much detail as possible within the space below (or attached separate sheet). Please try to be as clear as possible so that the Commission may understand exactly what it is that you are proposing. \_\_\_\_\_

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3. Is the developer the owner of the proposed development?  Yes  No.

4. Name and address of owner, if different from developer:

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5. Is the owner of the proposed development a corporation?  Yes  No

6. Location: Township or Plantation \_\_\_\_\_ County \_\_\_\_\_

7. Is the proposed development site owned \_\_\_\_\_ leased \_\_\_\_\_ or optioned for purchase or lease \_\_\_\_\_?

8. Name of lessor, if applicable: \_\_\_\_\_

9. Date of purchase or lease if applicable: Month \_\_\_\_\_ Day \_\_\_\_\_ Yr. \_\_\_\_\_

10. Size of development (in square feet or acres): \_\_\_\_\_

11. State the names and water quality classifications of any rivers, streams, ponds or lakes abutting or within the property which is to be developed. Water quality classifications for all water in the state are set by and can be obtained from the Department of Environmental Protection, Augusta, Maine 04330 - phone: (207) 289-2591

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12. What is the estimated total cost of the development?

13. How will the development be financed?

by the applicant  
 by state government loan  
 by bank: \_\_\_\_\_  
 other: \_\_\_\_\_

14. Will water be used or provided by the developer?  Yes  No

15. Source(s) of water supply, if not localize:

well(s)  
 offsite utility: \_\_\_\_\_  
 other: \_\_\_\_\_

16. Will the development result in the generation of any liquid effluent, waste water, or sewage?  Yes  No

17. Method(s) of liquid effluent, waste water, or sewage disposal:

septic system  
 treatment and discharge underground  
 treatment and discharge to surface waters  
 offsite utility: \_\_\_\_\_

18. Will the development result in the generation of any airborne effluent other than ordinary fireplace smoke or heating furnace exhaust?

Yes  No If the answer is Yes, describe: \_\_\_\_\_

19. What sorts of rubbish or other solid wastes will be generated by the development? \_\_\_\_\_

20. Will a county or municipal dump be used for the disposal of rubbish and other solid waste generated at the site?  Yes  No

If the answer is Yes, state:

Location: \_\_\_\_\_

Number of miles distant: \_\_\_\_\_

21. Nearest fire station: Location: \_\_\_\_\_  
Number of miles distant \_\_\_\_\_

22. Does the developer intend to construct any roads?  Yes  No

If the answer is Yes, state:

right of way width \_\_\_\_\_

travel width \_\_\_\_\_

surface material \_\_\_\_\_

23. State what provisions will be made for the continued maintenance of all interior roads (roads within the development): \_\_\_\_\_

24. Will the interior roads be plowed during the winter?  Yes  No

25. Does the developer intend to construct any buildings or other structures?  Yes  No.

If the answer is Yes, explain: \_\_\_\_\_

26. Will electric power be available to the development?  Yes  No.

If the answer is Yes, check whether the power will be installed  overhead or  underground.

I hereby declare that I have examined this information, including the accompanying exhibits, and to the best of my knowledge and belief it is true and complete.

Signature \_\_\_\_\_

Date \_\_\_\_\_

Part II: Exhibits

1. Submit as Exhibit 1 a U. S. G. S. topographic map, or copy thereof, on which is marked the general outline of the development area.
2. Submit as Exhibit 2 a SITE PLAN of the development area. This should be a plan showing the development site as it exists now. It may be a rough plan, but it should indicate all existing buildings, boundaries, roads, wells, dumps, wooded areas, open areas, swamps, rivers, streams, lakes, ponds, steep slopes, historic landmarks, and any other prominent or pertinent environmental features.
3. Submit as Exhibit 3 a DEVELOPMENT PLAN. This should be an imaginary plan showing the site after it has been developed. This plan should show all roads, parking areas, bridges, buildings, beaches, camps, wells, sewage disposal facilities, etc. to be constructed by the applicant, and any and all other changes (e.g. cutting, dredging, grading, etc.) to be made to any of the features shown on the SITE PLAN. This DEVELOPMENT PLAN should be drawn to scale and should have all dimensions indicated in feet.
4. Submit as Exhibit 4 a medium intensity (or greater intensity, if available) soils map of the development area.
5. If the applicant proposes to dispose of any liquid effluent, waste water, or sewage, submit as Exhibit 5 complete detailed plans for the proposed disposal system, whether it be an ordinary septic system or a more elaborate system.
6. If the applicant is proposing underground sewage disposal, submit as Exhibit 6 an on-site Soil Investigation Report of the disposal area. This report should be on Form 12 of the Soil & Water Conservation Commission. The regional office of the U. S. Soil Conservation Service or a recognized practicing soil scientist can make this report for the applicant. A list is enclosed of SCS regional offices and of recognized practicing soil scientists.
7. If the applicant proposes to erect any structures, such as buildings, bridges, obelisks, etc., submit as Exhibit 7 scaled plans for such structures, showing at the least the dimensions, foundation design and materials, and the outward appearance, including colors.

RESPONSE

TO

THE MAINE DEPARTMENT OF CONSERVATION

The Final Environmental Statement, Section 4, Pages 35 thru 38, includes information regarding measures and controls which will be implemented to minimize the impact of any adverse environmental effects.

APPENDIX Q

LETTER

FROM

THE WASHINGTON COUNTY REGIONAL PLANNING COMMISSION

20 SEPTEMBER 1974

AND

RESPONSE

## Washington County

## REGIONAL PLANNING COMMISSION

P. O. BOX 273 MACHIAS, MAINE 04654

TELEPHONE (ACT 207) 255-3971

September 20, 1974

Addison  
Barreysville  
Baring  
Beals  
Calais  
Centerville  
Cherryfield  
Columbia  
Columbia Falls  
Cutler  
Danforth  
Debtors  
Dennysville  
East Machias  
Eastport  
Harrington  
Jonesboro  
Jonesport  
Lubec  
Machias  
Machiasport  
Marshfield  
Meddybemps  
Milbridge  
Pembroke  
Perry  
Princeton  
Robbinsport  
Vinalhaven  
Vinalboro  
Wester  
Weston  
Whiting  
Winterville

Mr. Billy E. Welch Ph.D  
Special Assistant for Environmental Quality  
Office of the Assistant Secretary  
SAF/ILE  
Department of the Air Force  
Washington, D.C. 20330

Subject: Draft Environmental Statement  
on OTH-B radar receiver  
proposed for Township 19,  
M.D., Washington County

Dear Mr. Welch:

As you know, the Washington County Regional Planning Commission has had under consideration the J.S. Air Force's proposal to construct a radar receiver on the blueberry barrens in Township 19, M.D. In this regard, Commission staff members have participated in two public meetings, conversed with land owners in the area and an ad-hoc committee of County residents, and solicited comment from citizens via direct mailouts and our regular newsletter.

The brief comments below reflect the issues which the Regional Planning Commission considers significant:

The Regional Planning Commission does not contest the decision to build the Over-the-Horizon System (relative to the alternatives of building some other system or building nothing at all), nor do we contest the original parameters of site selection which caused the system to be proposed for Washington County.

We consider the economic impact of salaries during the construction and operational phases of the system's life would be beneficial to the area.

However, we feel that the draft environmental statement is inadequate in two respects: 1) It fails to investigate the negative economic impact of removing the blueberry acreage in question from production, and, 2) It fails to demonstrate conclusively that other possible sites were researched as diligently as necessary. To be more specific:

Mr. Billy C. Welch Ph.D.  
September 20, 1974  
Page 2

Since the publication of the draft environmental statement, Air Force representatives have met with officers of the A. L. Stewart Company to determine the actual extent of negative economic impact. However, because the receiver's construction costs are so closely related to topography, some portion of the flat barrens is required for the radar. Because we have no detailed knowledge of the radar's design specifications or cost constraints, we can only urge that a minimum of blueberry land be taken out of production, for the following reasons: During the next twenty-five years (the approximate life of the radar system), new developments in cultivating and harvesting berries will tend to favor large blocks of level land. Under good management, the barrens around Montegail Pond will become relatively more productive than it is today. In fact, in the year 2000, it may not be economically feasible to harvest berries (under the present marketing set-up) except from large flat blueberry "farms". Furthermore, during the same period, the national demand for all types of agricultural products will continue to rise, while the land area available for production remains constant, or actually shrinks. Although a comparison of the profits and losses of putting agricultural land to non-productive uses may be inconclusive this year, each passing year will increase the demands on agriculture to the point where the greatest benefit (of all the possibilities which we can reasonably expect in this rural area) will accrue from raising and processing food products. We feel that the Air Force should recognize that the productivity and especially future productivity of the Montegail Pond area warrants a more thorough investigation of site locations. Some other location - which may be more costly to develop - would be preferable to the permanent destruction of land with a good potential for growing food products.

Through the process of public informational meetings, a tentative decision was made to utilize the Bucks Harbor Air Force Station in Machiasport as the radar support facility. Because the Bucks Harbor base is scheduled for phase-out in the near future, a significant economic loss - perhaps 1.5 million per year - could be averted by locating the OTH-B support base at this site.

In summary, we feel that the dialogue between Air Force representatives and the citizens of Washington County has been productive. We are optimistic that an acceptable decision on the OTH-B radar project can be reached with due regard to the already severe economic straits

AD-A104 331

AIR FORCE SYSTEMS COMMAND WASHINGTON DC  
FINAL ENVIRONMENTAL STATEMENT, CONTINENTAL UNITED STATES OVER-T--ETC(U)

F/6 17/9

JAN 75

UNCLASSIFIED AFSC-TR-81-63

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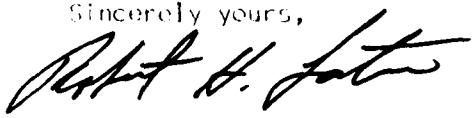
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DATE  
FILED  
10-81  
DTIC

Philip E. Welsh, Ph.D.  
September 20, 1973  
DPP

in the areas of land use dependence on agriculture.

Sincerely yours,



Robert Foster  
Chairman

R/EW

cc:

M. Philip Savage  
Senator Edmund S. Muskie  
Senator William D. Hathaway  
Representative William Cohen  
Lt. Col. Donald B. Stukel  
A.L. Stewart and Sons

RESPONSE

TO

THE WASHINGTON COUNTY REGIONAL PLANNING COMMISSION

- Q-1 The Final Environmental Statement (FES), paragraph 3.e., Pages 26 thru 31, has been revised to provide additional information on the social and economic impact.
- Q-2 Reference the FES, paragraphs 1.c., Pages 5 thru 8, and 5.c., Pages 41 thru 43, for information regarding site surveys and site selection.

APPENDIX R

LETTER

FROM

THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

24 SEPTEMBER 1974

AND

RESPONSE



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION I

Room 2203 - (617)-223-4635  
J F KENNEDY FEDERAL BUILDING, BOSTON, MASSACHUSETTS 02203

September 24, 1974

Mr. Billy E. Welch, Ph.D.  
Special Assistant for Environmental Quality  
Department of the Air Force  
SAF/IIE  
Washington, D. C. 20330

Dear Mr. Welch:

This is in response to your letter of July 31, 1974, transmitting the United States Air Force's Draft Environmental Impact Statement for the Over-the-Horizon Radar System in Somerset and Washington County in the State of Maine. We have completed a review of this statement and offer the enclosed comments in accordance with the National Environmental Policy Act of 1969 and Section 309 of the Clean Air Act of 1970.

We feel that the draft statement does not contain sufficient information to assess fully, the environmental impact of the proposed action. We have, therefore, asked for additional information required to make a complete assessment of the impact, and have included comments on air and water quality, radiation, noise, herbicide use, solid waste, oil storage and secondary effects. We would be pleased to further discuss any of these comments with you.

In accordance with our national rating system, a copy of which is enclosed, we have rated this draft statement ER-2.

Thank you for forwarding us a copy of the draft statement, and please send a copy of the final statement when it is released.

Sincerely yours,

A handwritten signature in black ink, appearing to read "Wallace E. Stickney".

Wallace E. Stickney, P.E.  
Director  
Environmental Impact Office

Enclosures

WATER QUALITY

R-1

Domestic waste and equipment cooling water appear to be the only discharges from the proposed facilities. The draft statement says, "Domestic wastewater will be treated by a sewage treatment system to meet the classification requirement of the receiving streams." The statement also indicates that water used for "equipment cooling will be unchanged from source water except for a temperature increase of up to 10°F. The water discharged from the equipment cooling system will be cooled to meet the temperature of the receiving stream." This assessment, as presented in the draft impact statement, does not sufficiently address the problem of water quality to determine the magnitude of the impact from the proposed facilities. The following is a list of additional information that should be included in the final statement:

1. The name of the receiving streams for the discharge of both domestic and cooling water at each facility;
2. The flow data for those receiving streams (the 7-day/10-year low flow is the flow generally used for water quality determinations);
3. Water quality data on the receiving streams and the classifications as determined by the State of Maine water quality standards;
4. The proposed type of cooling system and information as to its applicability for the proposed project; and
5. The volume of domestic wastewater expected from the facilities and the proposed type of treatment.

The equipment cooling water discharge and the domestic waste discharge are subject to National Pollution Discharge Elimination Systems (NPDES) permits. A condition of these permits is that the stream not violate water quality standards. In Maine, their standards stipulate that "no heated effluent shall be discharged in the vicinity of water designated as fish or spawning beds by the Department of Inland Fisheries and Game."

A further condition of the issuance of a permit is that a minimum of secondary treatment be provided for domestic waste. We would think with the large areas of land required and a relatively small number of people at the proposed facilities, that subsurface disposal should be considered. If considered, the final statement should include the site for the disposal system, the percolation rate of the soil, and the minimum depth to groundwater and/or impervious material.

R-2

The draft statement indicates that approximately 75 acres at the transmitter site will have to be cleared and graded. This is a potential impact on the hydrology of the area. In the final statement, we would expect an assessment of this impact, including the effects of erosion and siltation on the surface waters in the vicinity of the transmitter site.

AIR QUALITY

R-3

The assessment of air quality in the draft impact statement is minimal. The statement says "Air pollution from standby plants will normally be small, since individual engines will only be exercised biweekly." What happens if the facilities have to go on standby power for an extended period of time?

The final statement should list the emissions to be expected from the engines operating at full load and predict the effect this will have on ambient air quality.

NOISE LEVELS

R-4

The impact statement should predict the noise levels to be anticipated at the facility under worst conditions. In addition, it should compare the worst condition with ambient noise levels and identify the increase as an adverse impact.

RADIATION ANALYSIS

R-5

We feel that the draft statement provides a complete analysis of the hazards of the transmitter site with respect to personnel wearing cardiac pacemakers, and the areas to be considered dangerous. However, with respect to T.V. and radio interference, the draft statement says, "No interference is expected beyond a three-mile radius of the transmitter in the main beam area and beyond one-mile radius in side and back lobe areas." We would be interested in knowing what experimental work has been done and what data bases are available in order to make the "3-mile radius" determination. This potential problem is particularly interesting since the Navy is requiring that the system be a minimum of 60 miles away from their receivers. If there is indeed a problem, the final statement should include some type of contingency plan for the unfortunate individuals who would be victims of interference to T.V., radio, and high fidelity equipment.

HERBICIDES ANALYSIS

R-6

We assume that some type of herbicide will have to be used in order to control weed and brush growth at the proposed transmitter and receiver sites. In the draft statement, this necessary maintenance has not been mentioned. We expect that the final statement will correct or clarify this point. If herbicides are to be used, the final statement should include the type and amount to be used and stipulate that all uses will be in accordance with label directions provided on EPA-registered products.

SOLID WASTE DISPOSAL

R-7

The draft statement indicates that on-site disposal will be used at the transmitter site. The final statement should include a section on site selection and design. All landfills at federal facilities must be in compliance with EPA Thermal Processing and Land Disposal of Solid Waste Guidelines published in the Federal Register on August 14, 1974.

R-8

The draft statement does not account for site clearing waste during construction. This should be included in the final statement. We would hope that all wood cleared would be cut in a way that would be beneficial to the environment (i.e., lumber, plup wood, or firewood).

#### OIL STORAGE

R-9

The draft statement indicates that approximately 150,000 gallons of diesel fuel will be stored in underground tanks at the transmitter site. It should be noted that Spill Prevention Control and Countermeasure Plans have to be prepared in accordance with Oil Pollution Prevention guidelines published in the Federal Register on December 11, 1973.

#### SECONDARY EFFECTS

R-10

The Council on Environmental Quality Guidelines, as published in the Federal Register on Wednesday, August 1, 1973, require that "Secondary or indirect as well as primary or direct consequences for the environment should be included in the analysis" for an impact statement. The draft statement on "Over-the-Horizon" does not assess any secondary effects of the project.

Of particular concern is the opening of wilderness areas to the public by means of a two-wheel drive vehicle access. Associated impacts to be assessed would be the effect on the physical environment (air, water, noise, et cetera), as well as the effects on the economic environment of the area.

We feel that potential secondary effects should be addressed in the final statement and provisions made for reducing the environmental impacts. Also, any other secondary effects that might occur as a result of this project should be studied in the final statement.

## EXPLANATION OF EPA RATING

### Environmental Impact of the Action

#### L0 -- Lack of Objections

EPA has no objections to the proposed action as described in the draft environmental impact statement; or suggests only minor changes in the proposed action.

#### ER -- Environmental Reservations

EPA has reservations concerning the environmental effects of certain aspects of the proposed action. EPA believes that further study of suggested alternatives or modifications is required and has asked the originating federal agency to reassess these aspects.

#### EU -- Environmentally Unsatisfactory

EPA believes that the proposed action is unsatisfactory because of its potentially harmful effect on the environment. Furthermore, the Agency believes that the potential safeguards which might be utilized may not adequately protect the environment from hazards arising from this action. The Agency recommends that alternatives to the action be analyzed further (including the possibility of no action at all).

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### Adequacy of the Impact Statement

#### Category 1 -- Adequate

The draft environmental impact statement sets forth the environmental impact of the proposed project or action as well as alternatives reasonably available to the project or action.

#### Category 2 -- Insufficient Information

EPA believes that the draft environmental impact statement does not contain sufficient information to assess fully, the environmental impact of the proposed project or action. However, from the information submitted, the Agency is able to make a preliminary determination of the impact on the environment. EPA has requested that the originator provide the information that was not included in the draft environmental impact statement.

#### Category 3 -- Inadequate

EPA believes that the draft environmental impact statement does not adequately assess the environmental impact of the proposed project or action, or that the statement inadequately analyzes reasonably available alternatives. The Agency has requested more information and analysis concerning the potential environmental hazards and has asked that substantial revision be made to the impact statement.

If a draft environmental impact statement is assigned a Category 3, no rating will be made of the project or action; since a basis does not generally exist on which to make such a determination.

## RESPONSE

TO

THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Many of the comments presented in the United States Environmental Protection Agency letter of 24 September 1974 cannot be considered at the level of detail indicated until the system design has been completed. The Final Environment Statement (FES) addresses the comments with the most current information on each subject.

R-1 Reference paragraph 3.a., Pages 16 and 17, and Section 4, Page 37, of the FES.

R-2 Reference paragraph 3.c., Pages 19 and 20, and Section 4, Page 37, of the FES.

R-3 & Reference paragraph 3.b., Pages 17 thru 19, and Section 4, R-4 Page 37, of the FES. In addition the following maximum, unfiltered power plant emissions are provided in response to R-3.

STANDEPY POWER PLANT EMISSIONS (IN POUNDS)	TRANSMITTER		RECEIVER	
	300 Gal Bi-wkly	12,000 Gal 24 Hr	25 Gal Bi-wkly	12,000 Gal 24 Hr
Aldehydes	0.6	24.0	0.05	2.4
Carbon Monoxide	0.6	24.0	0.05	2.4
Hydrocarbons	0.6	24.0	0.05	2.4
Nitrogen Oxide	21.6	864.0	2.0	86.4
Sulfur Dioxide	47.1	1884.0	4.0	188.4
Particulates	5.3	210.0	0.5	21.0

R-5 Reference paragraph 3.d.(3), Page 24 thru 26, and Section 1, Pages 35 thru 37, of the FES.

R-6 Reference Section 4, Page 33, of the FES.

R-7 Due to the limited number of duty personnel on the sites, on-site landfills are no longer being considered for disposal of solid waste.  
Reference paragraph 3.h., Page 33, of the FES.

R-8 Reference paragraph 3.c., Pages 19 and 20, and Section 4, Pages 37 and 38, of the FES.

R-9 Reference Section 4, Page 37, of the FES.

R-10 No wilderness areas are involved in the proposed sites. Ready access by automobile is currently achievable. See paragraph 3.g., Page 32. Economic impact, both positive and negative, is considered in paragraph 3.e., Pages 26 thru 31. If Option 2 were implemented, the Machias River would require bridging which would result in access to the river not readily available today. See paragraph 5.c., Page 42. Other effects are considered in Section 6, Page 44 and Section 7, Page 45.

APPENDIX S

LETTER

FROM

THE UNITED STATES DEPARTMENT OF THE INTERIOR

26 SEPTEMBER 1974

AND

RESPONSE



## United States Department of the Interior

OFFICE OF THE SECRETARY  
WASHINGTON, D.C. 20240

In reply refer to  
ER-74/1003

SLP 76 1974

Dear Mr. Welch:

This is in response to your letter of July 31, 1974, requesting the Department of the Interior to review and comment on your revised draft environmental statement for the "Over-the-Horizon (OTH) Radar System, Continental United States." Accordingly, we have reviewed the statement and offer the following comments for your consideration.

In general we find that the statement needs to address in more detail the recreational, agricultural, and fish and wildlife values of the project area. Further, we wish to reiterate the cultural concerns indicated on pages 3 and 4 of our earlier commentary (May 31, 1972) on the initial draft environmental statement for this project. While no

- S-1 officially listed historical sites are involved, it is known that the area was managed for blueberries in pre-Columbian times. Indian artifacts are present, and searching for them is a local hobby. Also, we note that the revised draft does not address the procedures which
- S-2 would be used to clear the site of trees, nor the methods to be used for the control of vegetation during the lifespan of the project as mentioned in our review of May 1972.
- S-3 We suggest that the final statement show that the proposed existing transmitter and receiver sites provide seasonal uses for hunting, fishing, trapping, family camping, and snowmobiling. And, that the areas are important to local residents and vacationing visitors alike. Further, our review of the project areas reveals the following additional information: Share Pond has eleven camps; Montegail Pond has twenty-eight camps or cottages on its shore; and, the



*Save Energy and You Serve America!*

Barrens is a very special and unique area that supports a major portion of Maine's blueberry industry. Two thousand acres of the Barrens are devoted to intensive management that produces two or more tons of blueberries S-5 per acre. The proposed project will take several hundred acres of the best commercial blueberry land.

S-6 We note that the streams near the transmitter have low volume summer flows and dilution factors could become critical if proposed coolant waters were introduced. It would seem that discharging nearly 24,000 gallons per day (gpd) in the prototype system and 137,000 gpd in the operational system could have a significant impact on the ecology of the streams from the point of discharge to some point downstream. In addition, a lagoon for the coolant could have the undesirable effect of drawing waterfowl or other wildlife into the hazard area. Therefore, a comprehensive description of the actual streams under consideration, as well as a more detailed description of the anticipated impacts, should be presented. Such impacts S-7 could also include potential contamination from accidental leakage of spills from the large amount of stored fuels.

S-8 We feel that there is a real and reasonable concern for danger to resident and migratory wildlife from the effect of RF radiation. In this aspect we find that the statement needs to address the provisions for providing protective measures because most resident species can be expected to spend substantial periods of time in close proximity to the intense radiation zones within the antenna array unless positive exclusion methods are employed. Further, in the heavily forested areas, any large opening managed to maintain low vegetation would create an attraction for wildlife. And, the normal activities of the station personnel would have little effect in reducing wildlife usage over a large an area. The use of an 8-foot high cyclone fence, topped with barbed wire and solidly embedded and regularly maintained, would exclude larger mammals from the high hazard area, but would not exclude birds. Elimination of all vegetation under the antenna and application of an inert ground cover should reduce bird activity to acceptable levels.

S-9 We note that the description of vegetation is limited to seven major kinds of trees and that they consist of dense woodlands. From such a discussion it is not possible to adequately analyze the ensuing impacts resulting from the proposed project such as; land clearing for structures, access roads, etc. Consequently we suggest that the final environmental statement present information on stand size classes, general quality of trees, commercial vs non commercial timber and the impending impacts resulting from the removal of such vegetation.

S-10 Similarly, the final statement needs to fully address the clearing of power line rights-of-way and their associated impacts. The construction of these lines and their corresponding rights-of-way will significantly increase the environmental impacts of a project such as OTH. Consequently, various methods of constructing these lines should be examined before deciding whether to utilize existing CMP distribution system to the letter. A discussion of available options would improve this portion of the statement.

S-11 As it now stands, the environmental statement is not clear regarding whether or not the network of access roads required to service the sites will be open to the public for outdoor recreation as well as for other uses. If these roads will be open, then the proposed access routes will be a beneficial impact for recreation and other uses. If not, then what form of use restrictions will be imposed upon the public.

We appreciate the opportunity to review and comment on this statement and hope that these remarks will be of assistance to you in preparing the final environmental statement.

Sincerely yours,

*Mr. Billy E. Welch* *Special Assistant for Environmental Quality* *Department of the Air Force* *Washington, D.C. 20330* Secretary of the Interior

Mr. Billy E. Welch, ph.D  
Special Assistant for  
Environmental Quality  
Department of the Air Force  
Washington, D.C. 20330

RESPONSE

TO

THE UNITED STATES DEPARTMENT OF THE INTERIOR

- S-1 Reference paragraph 3.d.(1), Page 21, of the Final Environmental Statement (FES).
- S-2 Reference paragraph 3.c., Pages 19 and 20, and Section 4, Pages 37 and 38, of the FES.
- S-3 Reference paragraph 3.d.(1), Page 21, of the FES.
- S-4 Reference Section 2, Pages 14 and 15, of the FES.
- S-5 Reference paragraph 3.e., Pages 26 thru 31, of the FES.
- S-6 Reference paragraph 3.a., Pages 16 and 17, of the FES for the most current information regarding water requirements.
- S-7 Reference paragraph 3.b., Page 17, and Section 4, Page 37, of the FES.
- S-8 Reference paragraph 3.d.(2 )(b), Page 22, of the FES.
- S-9 Reference paragraph 3.c., Pages 19 and 20, and Section 4, Pages 37 and 38, of the FES.
- S-10 Reference paragraph 3.f., Pages 31 and 32, and Section 4, Page 38, of the FES.
- S-11 Reference paragraphs 3.d.(1), Page 21, and 3.g., Pages 32 and 33, of the FES.